



Drinking Water Surveillance Program

DRESDEN WATER TREATMENT PLANT

Annual Report 1988

**TD
380
.D74
1990
MOE**



Ontario

**Environment
Environnement**

Jim Bradley Minister/ministre

Copyright Provisions and Restrictions on Copying:

This Ontario Ministry of the Environment work is protected by Crown copyright (unless otherwise indicated), which is held by the Queen's Printer for Ontario. It may be reproduced for non-commercial purposes if credit is given and Crown copyright is acknowledged.

It may not be reproduced, in all or in part, part, for any commercial purpose except under a licence from the Queen's Printer for Ontario.

For information on reproducing Government of Ontario works, please contact Service Ontario Publications at copyright@ontario.ca

**TD
380
.D74
1990**

Dresden water treatment plant :
annual report 1988.

79049

DRESDEN
WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE
PROGRAM

ANNUAL REPORT 1988

FEBRUARY 1990



Copyright: Queen's Printer for Ontario, 1990
This publication may be reproduced for non-commercial purposes
with appropriate attribution.

EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

DRESDEN WATER TREATMENT PLANT 1988 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The Dresden Water Treatment Plant is a direct filtration plant which treats water from the Sydenham River. The process consists of coagulation, flocculation, filtration, and disinfection. This plant has a rated capacity of $3.8 \times 1000 \text{ m}^3/\text{day}$ and serves a population of approximately 2500.

Water samples from the raw and treated water at the plant and from two sampling sites in the distribution system were taken monthly and analysed for approximately 160 parameters. Parameters were divided into the following groups: Bacteriological, Inorganic and Physical (Laboratory Chemistry, Field Chemistry and Metals) and Organic (Chloroaromatics, Chlorophenols, Pesticides and PCB, Phenolics, Polyaromatic Hydrocarbons, Specific Pesticides and Volatiles).

A summary of results is shown in Table 1.

Inorganic and Physical parameters were below any health related ODWOs with the exception of Nitrate in the November treated water and distributed water samples. The District Officer was notified.

Of a total of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

While no ODWOs were exceeded, more pesticides are found at quantifiable levels in the Dresden Supply than at most other supplies in the program. The 1988 DWSP sampling results confirm those of previous years and indicate that the source water is adversely impacted as a result of agricultural activities in the watershed.

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP

SUMMARY TABLE BY SCAN

SCAN	RAW			TREATED			SITE 1			SITE 2		
	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
BACTERIOLOGICAL	52	50	96	53	10	18	49	14	28	42	15	35
CHEMISTRY (FLD)	47	47	100	88	88	100	120	120	100	99	99	100
CHEMISTRY (LAB)	309	281	90	309	247	79	426	376	88	342	301	88
METALS	360	229	63	360	186	51	541	313	57	470	270	57
CHLOROAROMATICS	196	0	0	182	0	0	168	0	0	140	0	0
CHLOROPHENOLS	12	0	0	6	0	0	.	.	.	.	.	.
PAH	238	0	0	221	0	0	.	.	.	.	.	.
PESTICIDES & PCB	476	6	1	429	6	1	396	5	1	328	2	0
PHENOLICS	15	11	73	15	9	60	.	.	.	.	.	.
SPECIFIC PESTICIDES	56	0	0	50	0	0	0	0	0	0	0	0
VOLATILES	403	0	0	402	56	13	313	51	16	257	43	16
TOTAL	2164	624	42.1	2115	602		2013	879		1678	730	

THE ODWO FOR TOTAL NITRATES WAS EXCEEDED ON TWO OCCASIONS NO OTHER HEALTH-RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

DRESDEN WATER TREATMENT PLANT 1988 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The DWSP was initiated at the Dresden Water Treatment Plant in February of 1986. Annual reports were published for 1986 (ISBN 0-7729-2552-6) and 1987 (ISSN 0839-8984).

This report contains information and results for 1988.

PLANT DESCRIPTION

The Dresden Water Treatment Plant is a direct filtration plant which treats water from the Sydenham River. The process consists of coagulation, flocculation, filtration and disinfection. Sodium silicate activated with sodium bicarbonate is used as a coagulant aid and potassium permanganate is used for taste and odour control. Powdered activated carbon is applied for the removal of pesticides,

known to be present in the raw water. This plant has a rated capacity of $3.8 \times 1000 \text{ m}^3/\text{day}$ and sample day flows ranging from $1.9 \times 1000 \text{ m}^3/\text{day}$ to $7.2 \times 1000 \text{ m}^3/\text{day}$. The Dresden plant serves a population of approximately 2500.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

METHODS

Water samples were obtained from four DWSP approved locations;

- i) Plant Raw - The water originated from the raw water lowlift discharge prior to chlorination and was sampled through a copper sample line. The sample tap is located near the lowlift pumps.
- ii) Plant Treated - The water originated from the highlifts after addition of all treatment chemicals and was sampled through a copper sample line. The sample tap is located near the highlift pumps.
- iii) Distribution System - Site 1 - This house is approximately 2 kilometers from the plant. Water was sampled through a copper sample line at the basement laundry tap.
- iv) Distribution System - Site 2 - This house is approximatley

3 kilometers from the plant. Water was sampled through copper plumbing at the groundfloor laundry tap.

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At both distribution system locations two types of samples were obtained: a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which levels of inorganic compounds and metals may be changed on standing due to leaching from (or deposition on), the plumbing system. The only analyses carried out on the standing samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing at the sample tap for five minutes before being sampled.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

DRESDEN WATER TREATMENT PLANT

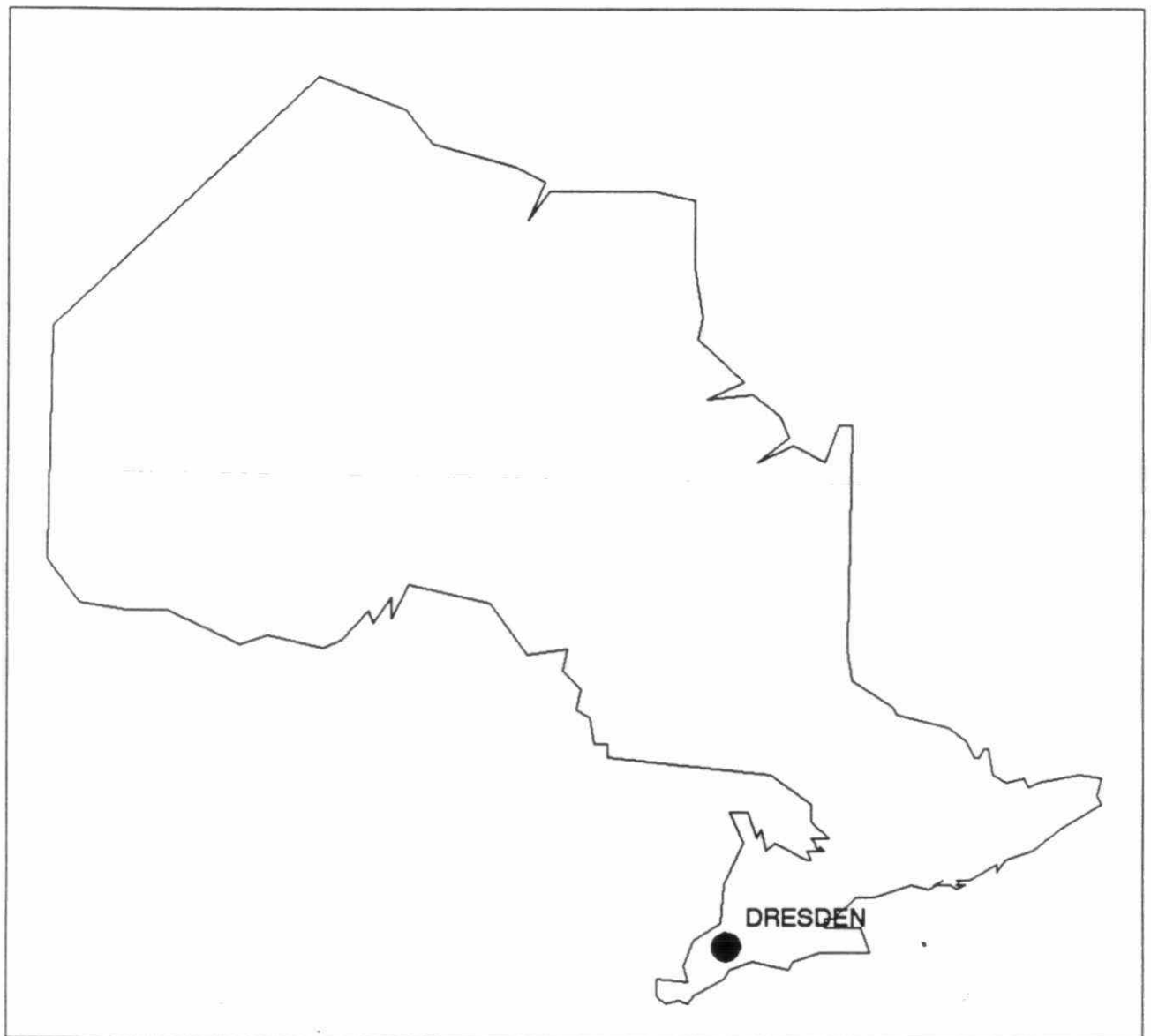


FIGURE 2
DRESDEN WATER TREATMENT PLANT

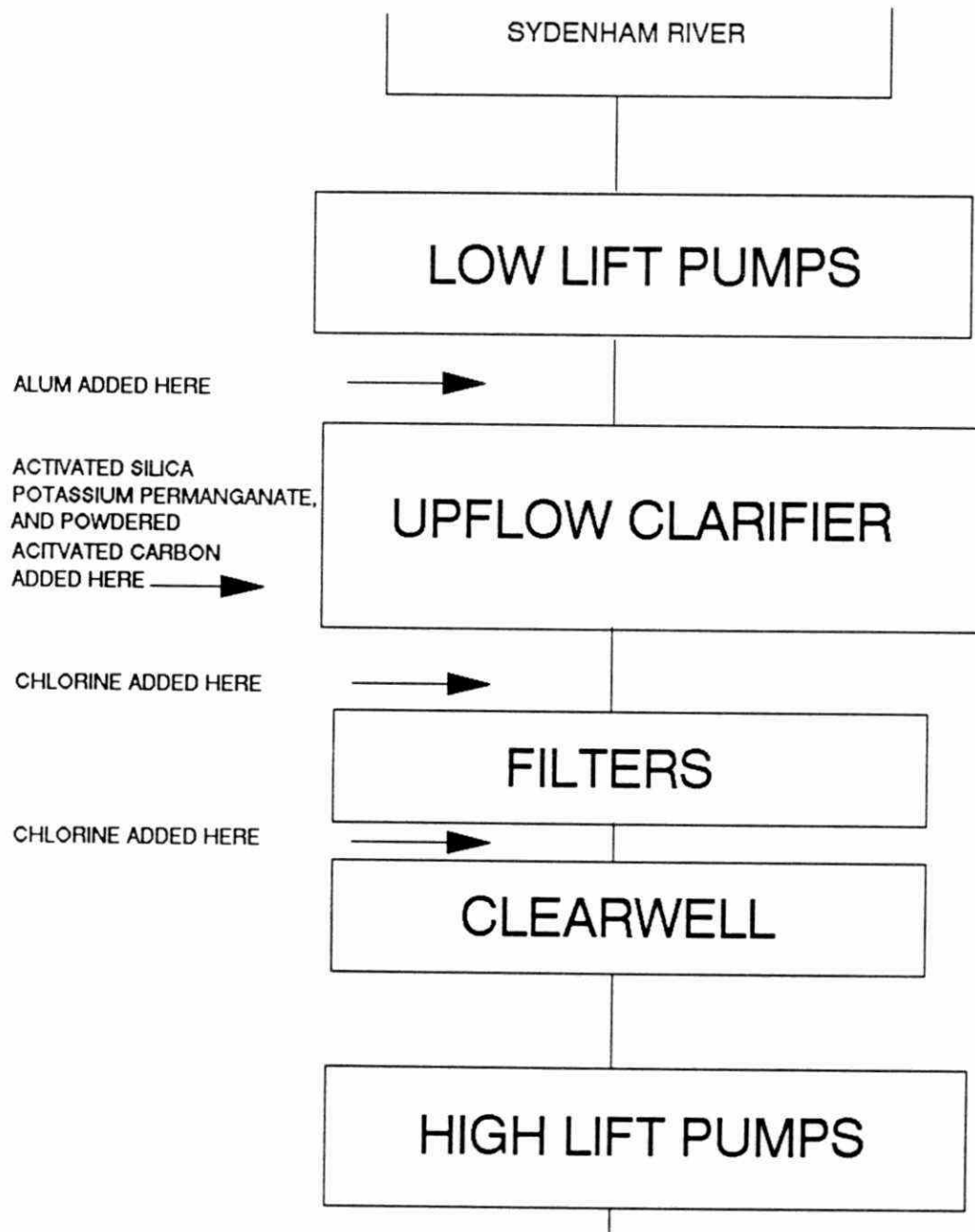


TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

DRESDEN WATER TREATMENT PLANT

LOCATION: 749 PEEL STREET, P.O. BOX 1120
DRESDEN, ONTARIO
N0P 1M0
(519-683-6103)

SOURCE: RAW WATER SOURCE - SYDENHAM RIVER

RATED CAPACITY: 3.8 (1000 M³/DAY)

OPERATION: MINISTRY OF THE ENVIRONMENT

PLANT SUPERINTENDENT: C. SHERMAN

MINISTRY REGION: SOUTHWEST

DISTRICT OFFICER: M. LOOBY

MUNICIPALITY
SERVED

DRESDEN

POPULATION

2,504

plant was five hours then there would be a five hour interval between the raw and treated sampling.

Stringent DWSP sampling protocols were followed to ensure that all samples are taken in a uniform manner.

Sample day flow, treatment chemical dosages and Field Chemistry measurements such as Turbidity, Chlorine Residuals, pH and Temperature were recorded on the day of sampling and were entered on the DWSP data base as submitted.

RESULTS

The raw and treated water from the Dresden Water Treatment Plant and water from two sites in the distribution system was sampled for approximately 160 parameters fifteen times in 1988. The Specific Pesticide and Chlorophenol scans were analysed in June and November only. Polynuclear Aromatic Hydrocarbons and Phenols are only analysed in the raw and treated water at the plant. As a result of an unforeseen emergency the laboratory capacity was exceeded and analysis for volatiles could not be carried out when the samples were received. Since analysis for volatiles is no longer valid after four weeks of storage, volatile results for February are not available.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 lists all parameters analysed in DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publication (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS) recently published (ISBN 0-7729-4461-X) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Although some of the parameters measured on DWSP may be present in the raw and treated water as a result of pollution, many of the compounds detected are naturally occurring or are treatment by-products.

The DWSP does not analyse for Taste and Odour or biological water quality parameters, and can therefore not assess these aspects of the water supply.

As stated under Results, traces do not indicate quantifiable values, as defined by established MOE Laboratory analytical reporting protocols. While they can be useful in trend analysis or for the confirmation of the presence of a specific contaminant that

is repeatedly detected at these levels, the occasional finding of a trace level of a contaminant is not considered to be significant.

DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.

Bacteriology

Positive results for the Bacteriology scan were present ten times in the treated water, fourteen times in the distribution system Site 1 water and fifteen times in the Site 2 water. The positive parameters were mostly Standard Plate Count Total Coliform and/or Total Coliform Background.

As a result of a positive Presence/Absence test Coliforms were determined present in the July Site 2 water. Coliforms were detected in the same sample at 3 counts/100 mL by the membrane filtration test. Aeromonas was determined present in the August Site 1 water.

Standard Plate Count is a test used to supplement routine analysis for Coliform bacteria. The limit for Standard Plate Count (at 35°C after 48 hours) in the ODWOs is 500 organisms per mL (based on a geometric mean of 5 or more samples). High Standard Plate Counts were present three times in the Site 1 water samples and twice in the Site 2 water samples. The high Standard Plate Count may be indicative of a deterioration in conditions in the distribution

system. A total Chlorine Residual of at least 0.10 mg/L was detected in the distribution system. No samples contained bacteriological results over any applicable health related ODWOs.

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality; the routine monitoring program usually requires the taking of multiple samples in a given system. Full interpretation of bacteriological quality cannot be made on the basis of single samples. Further, bacteriological limits were developed in acknowledgement that the presence of coliforms may be detected due to their non-uniform distribution throughout the distribution system and the fact that their enumeration is subject to considerable variation. For these reasons, the occasional finding of low numbers of coliform organisms is not unexpected. Routine bacteriological monitoring, as outlined in the ODWOs is carried out by the operating authority.

Inorganic and Physical

Laboratory and Field Chemistry

The results for Laboratory and Field Chemistry scans were below any applicable health related ODWOs except for Nitrates.

The ODWO 10.0 mg/L for Total Nitrates was exceeded, at 12.5 mg/L in the first treated water sampled in November, and in the second

November treated water sample at 15.7 mg/L , at 14.8 in the Site 1 sample and 14.4 in the Site 2 sample. The District Officer was notified. Occasional elevated Nitrate levels would not be unexpected given the agricultural nature of the watershed. The occurrence of Nitrate ion in water commands caution. In areas where the Nitrate content of water is known to exceed the Maximum Acceptable Concentration on a continuous basis the public should be informed by the appropriate health authority.

Colour exceeded the aesthetic ODWO of 5.0 True Colour Units (TCU) twelve times in treated water and distributed water sample, ranging as high as 10.5 TCU in November.

It is desirable that the Temperature of drinking water be less than 15°C; the palatability of water is enhanced by its coolness. A temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water. The desired ODWO was exceeded thirteen times in the treated water and free flow distributed water. In June, July and August, elevated standard plate counts in distributed water occurred when water temperatures were at their highest levels.

The ODWO indicate that a hardness level of between 80 and 100 mg/L, as the equivalent quantity of calcium carbonate, for domestic waters provides an acceptable balance between corrosion and incrustation. Water supplies with a hardness greater than 200 mg/L are considered poor and would possess a tendency to form scale deposits and result in excessive soap consumption.

At Dresden a considerable contribution to river flow originates in an area of sand plains. The Hardness values ranged from 241 - 425 mg/L as Calcium Carbonate.

Other parameters associated with hardness, calcium and conductivity were also high.

The Langelier Index is used extensively in estimating the corrosion potential of water. An increasingly negative index indicates the increasing possibility of corrosion. It is considered sound engineering practice to maintain a slightly positive Langelier Index. The Langelier Index for Dresden is consistently positive.

Turbidity in water is caused by the presence of suspended matter such as clay, silt, colloidal particles, plankton and other microscopic organisms. The most important potential health effect of Turbidity is its interference with disinfection in the treatment plant and the maintenance of a chlorine residual. The ODWO of 1 Formazin Turbidity Unit (FTU) was exceeded as indicated by the

laboratory turbidity values for January (3.3 FTU) and December (5.5 FTU). The field turbidity values do not support these values (January .33 FTU, December .29 FTU). The discrepancy between the lab and field turbidity values is presently being investigated by laboratory staff.

Metals

The results reported for the Metal scan were below any applicable health related ODWOs.

The levels of some metals are lower in the treated water as compared to the raw water. This is a result of the treatment process. The addition of alum as a coagulant to the raw water and the resulting coagulation/settling process has been shown to reduce the levels of most metals.

Elevated levels of Copper, Lead and Zinc were detected in the standing samples compared to the free flow distribution samples thus, indicating that small quantities of these metals were leached from the household plumbing as the water stood overnight. Although the Langelier Index indicates minimal potential for corrosion some metals will be leached in standing samples in most supplies.

At present, there is no evidence that Aluminum is physiologically harmful and no health limit for drinking water has been specified. The measure of residual Aluminum in the treated water is important

to indicate the efficiency of the treatment process. The ODWOS indicate that a useful guideline is to maintain a residual below 100 ug/L as Al in the water leaving the plant to avoid problems in the distribution system. Aluminum values exceeded the ODWO operational guideline three times in the treated water.

Organic

Chloroaromatics

The results of the Chloroaromatics group showed that one Chloroaromatic was detected:

Hexachloroethane

Hexachloroethane was detected at trace levels, once in the distribution system Site 1 water and once in the Site 2 water.

Review of these results, along with information from other water supplies on DWSP, would indicate that certain Chloroaromatics appear more frequently in the treated water than in the raw and almost always at trace levels. These occurrences could possibly be due to the reaction of chlorine with organics present in the water or in the distribution system.

Chlorophenols

The results of the Chlorophenol scan showed that no Chlorophenols were detected.

Pesticides and PCB (Polychlorinated Biphenyl)

The results of the Pesticides and PCB scan showed that no PCBs were detected and that six pesticides were detected:

Alpha BHC

Lindane

Atrazine

Cyanazine

Des-Ethyl Atrazine

Metolachlor

There are several isomers of BHC (Benzene Hexachloride); gamma BHC is the active ingredient of the pesticide Lindane, while alpha BHC is the isomer most predominantly found in surface waters of the Great Lakes Basin as indicated in results from other water supplies on DWSP.

Alpha BHC was detected at trace levels three times in the Site 1 water and once in the Site 2 water.

Lindane was detected at trace levels, once in the raw water, twice in the treated water, four times in the Site 1 water and twice in the Site 2 water.

Atrazine was detected in February in the raw water (1660 ng/L), the treated water (1680 ng/L), the Site 1 water (1640 ng/l) and the

Site 2 water (1470 ng/L). It was detected in the April Site 1 water (540 ng/L) and the August raw water (2420 ng/L), treated water (1150 ng/L) and Site 1 water (1790 ng/L). It was also detected in the first November raw water (770 ng/L) and treated water (1610 ng/L) and the second November raw water (1600 ng/L), treated water (1750 ng/L), Site 1 water (1050 ng/L) and Site 2 water (1220 ng/L) and the December raw water (1560 ng/L), treated water (680 ng/L) and Site 1 water (1040 ng/L). Health and Welfare Canada has an interim Maximum Acceptable Concentration (IMAC) for Atrazine in drinking water of 60000 ng/L.

Atrazine was also detected at trace levels, four times in the raw water, once in the treated water, three times in the Site 1 water samples and once in the Site 2 water samples.

Des-Ethyl Atrazine is a breakdown product of Atrazine, it was detected at trace levels, once in the raw water, treated water and Site 1 water.

Cyanazine (Bladex) was detected at trace levels, once in the raw water, once in the treated water and once at Site 1.

Metolachlor was detected at trace levels, twice in the raw water, twice in the treated water and Site 1 water and once in the Site 2 water.

Late spring/early summer is the time of year when pesticides use/application would be at its maximum; this combined with the shallow, low flow nature of the Sydenham River may account for the occurrence of some of these pesticides. However, atrazine appears to be present year round in the source water and metolachlor was found in November. Removal by activated carbon adsorption at the dosages used, appeared to be inefficient.

Specific Pesticides

Results of the Specific Pesticides scan showed that no specific pesticides were detected.

Phenolics

The maximum desirable concentration of phenolic substances in drinking water is 2.0 ug/L. This limit has been set primarily to prevent the occurrence of undesirable tastes and odours, particularly in chlorinated water. Phenolics were detected in eleven raw water samples and nine treated water samples ranging from .60 to 8.8 ug/L. They were also detected at trace levels, once in the raw water and three times in the treated water. Phenolic compounds are present in the aquatic environment as a result of natural and/or industrial processes.

Volatiles

Results of the Volatiles scan show that eight parameters, other

than Trihalomethanes (THMs), were detected:

Benzene

Toluene

Ethylbenzene

Meta-Xylene

Ortho-Xylene

1,1,1-Trichloroethane

Trichloroethylene

Tetrachloroethylene

Benzene was detected at a trace level in one distribution system Site 1 water.

Toluene was detected at 0.85 ug/L in the November Site 2 water sample. The Aesthetic Objective for Toluene in drinking water as set out by Health and Welfare Canada is 24.0 ug/L. Toluene was also detected at trace levels, twice in the raw water, six times in the treated water, three times in the Site 1 water and Twice in the Site 2 water. The detection of toluene at low, trace levels is a laboratory artifact derived from the analytical methodology. The purge-and-trap analytical technique depends on the purging of the volatile organics in the water sample with helium gas onto a Tenax trapping column. The volatile materials are subsequently thermally desorbed, separated and quantified. Tenax, a toluene-like polymeric material, tends to decompose sporadically upon heating into toluene and other aromatic componenets (ethylbenzene and xylene) giving

instrument blanks in the order of 0.05 ug/L.

Ethylbenzene was detected at 0.65 ug/L in the May Site 1 water and 0.55 ug/L in the Site 2 water. The Aesthetic Objective for Ethylbenzene in drinking water as set out by Health and Welfare Canada is 2.4 ug/L. Ethylbenzene was also detected at trace levels, four times in the raw water, eight times in the treated water, seven times in the Site 1 sample and five times in the Site 2 sample.

Meta-Xylene was detected at 3.0 ug/L in the May Site 1 water and 2.3 ug/L in the Site 2 water. The Aesthetic Objective for Total Xylenes in drinking water as set out by Health and Welfare Canada is 300 ug/L. Meta-Xylene was also detected at trace levels, once in each of the treated water, Site 1 and Site 2 water.

Ortho-Xylene was detected at 1.3 ug/L in the May Site 1 water and 1.05 ug/L in the Site 2 water. The Aesthetic Objective for Total Xylenes in drinking water as set out by Health and Welfare Canada is 300 ug/L. Ortho-Xylene was also detected at trace levels, once in the raw water, treated water and Site 1 water and three times in the Site 2 water.

The volatiles listed above are typically found on an occasional basis at other water supplies included on the DWSP, usually at trace levels.

1,1,1-Trichloroethane was detected at trace levels, once in the raw water and once in the Site 1 water.

Trichloroethylene was detected at trace levels, once in the raw water, treated water and Site 1 water.

Tetrachloroethylene was detected at trace levels, three times in the treated water, four times in the Site 1 water and twice in the Site 2 water.

THMs are acknowledged to be produced during the water treatment process and will always occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane with Bromoform occurring occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform, Chlorodibromomethane, Dichlorobromomethane and Total THMs were always detected in the treated water. Bromoform was detected four times in the treated water, three times in the Site 1 water and once in the Site 2 water. All Total THM occurrences, ranging from 10.6 ug/L to 113.7 ug/L, were well below the ODWO of 350 ug/L.

CONCLUSIONS

As was determined in 1986 and 1987, more pesticides were detected at this supply than at most other supplies included in DWSP, as might be expected from the agricultural nature of the watershed. While none of the pesticides measured on DWSP exceeded drinking water guidelines, the activated carbon treatment applied to and in the removal of pesticides is not effective. Consideration should be given to ensuring the application of adequate dosages if this treatment is to continue to be applied.

The water at the Dresden supply is hard, the treated water exceeds the objective for colour on occasion and some bacteriological deterioration is observed in distributed water in the summer months. The ODWO for nitrates was exceeded in several samples. The results indicate an adverse impact on source water quality as a result of agricultural activity in the watershed.

RECOMMENDATIONS

Two recommendations can be made:

- 1) Consideration should be given to the improved application of powdered activated carbon for pesticide removal if the treatment is to be continued.

2) The chlorine residuals should be routinely monitored in the distribution system, especially during the summer months.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP SAMPLE DAY CONDITIONS FOR 1988

SAMPLE DAY CONDITIONS			TREATMENT CHEMICAL DOSAGES (MG/L)					
DATE	RETENTION TIME(HRS)	FLOW (1000 M3)	COAGULATION	COAGULATION AID	TASTE & ODOUR	POWDERED ACTIVATED C	POST-CHLORINATION	ACTIVATION
			ALUM DRY	SODIUM SILICATE	POTASSIUM PERMANGANATE	ACTIVATED CARBON POWDER	CHLORINE	SODIUM BICARBONATE
JAN 11	.2	3.7	25.00	6.88	.	.	.88	5.93
FEB 09	.7	3.5	55.56	6.78	1.00	.	2.41	5.85
MAR 16	.2	1.9	79.72	14.56	.50	.	.60	12.55
APR 12	.2	3.0	60.00	5.96	.	5.00	.	5.14
MAY 10	.1	7.2	4.54	4.25	.10	28.00	1.24	3.65
JUN 14	.6	4.2	32.00	4.00	1.55	36.00	2.35	3.45
JUL 13	.2	3.6	24.73	4.36	.27	33.07	1.61	3.76
OCT 12	.5	3.6	74.00	3.01	.12	25.95	.80	2.59
NOV 15	.2	2.4	64.06	10.49	.20	4.57	1.10	22.41
NOV 28	4.0	2.9	34.79	.20	.30	25.10	.	7.90
DEC 12	1.0	3.7	13.42	3.60	.30	13.50	.70	3.10
DEC 19	1.5	4.0	16.66	4.41	.12	.	1.11	3.80

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	RAW			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	AEROMONAS SP	.	.	.	.	.	.	1	1	0	1	0	0
	E. COLI P/A	.	.	.	.	.	.	1	0	0	1	0	0
	FECAL COLIFORM MF	15	14	0	.	.	.	.	.	.	.	.	.
	FECAL COLIFORM	.	.	.	.	.	.	1	0	0	1	0	0
	STANDRD PLATE CNT MF	7	7	0	15	8	0	12	10	0	10	9	0
	P/A BOTTLE	.	.	.	8	0	0	8	1	0	7	1	0
	STAPH AUREUS	.	.	.	.	.	.	1	0	0	1	0	0
	COLIFORM	.	.	.	.	.	.	1	0	0	1	1	0
	TOTAL COLIFORM MF	15	14	0	15	1	0	12	0	0	10	1	0
	T COLIFORM BCKGRD MF	15	15	0	15	1	0	12	2	0	10	3	0
*TOTAL SCAN BACTERIOLOGICAL		52	50	0	53	10	0	49	14	0	42	15	0
*TOTAL GROUP BACTERIOLOGICAL		52	50	0	53	10	0	49	14	0	42	15	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	1	1	0	14	14	0	19	19	0	16	16	0
	FLD CHLORINE FREE	1	1	0	15	15	0	19	19	0	15	15	0
	FLD CHLORINE (TOTAL)	1	1	0	15	15	0	22	22	0	18	18	0
	FLD PH	15	15	0	15	15	0	22	22	0	18	18	0
	FLD TEMPERATURE	15	15	0	15	15	0	22	22	0	18	18	0
	FLD TURBIDITY	14	14	0	14	14	0	16	16	0	14	14	0
*TOTAL SCAN CHEMISTRY (FLD)		47	47	0	88	88	0	120	120	0	99	99	0
CHEMISTRY (LAB)	ALKALINITY	15	15	0	15	15	0	24	24	0	19	19	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE			TREATED			SITE 1			SITE 2					
		RAW			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE					
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE			
CHEMISTRY (LAB)	CALCIUM	15	15	0	15	15	0	24	24	0	19	19	0			
	CYANIDE	15	0	1	15	0	0	12	0	0	10	0	0			
	CHLORIDE	15	15	0	15	15	0	23	23	0	19	19	0			
	COLOUR	15	15	0	15	15	0	23	23	0	19	19	0			
	CONDUCTIVITY	15	15	0	15	15	0	24	24	0	19	19	0			
	FLUORIDE	15	15	0	15	15	0	23	23	0	19	19	0			
	HARDNESS	15	15	0	15	15	0	24	24	0	19	19	0			
	IONCAL	15	9	0	15	9	0	24	11	0	20	8	0			
	LANGELIERS INDEX	15	15	0	15	15	0	24	24	0	19	19	0			
	MAGNESIUM	15	15	0	15	15	0	24	24	0	19	19	0			
	SODIUM	15	15	0	15	15	0	24	24	0	19	19	0			
	AMMONIUM TOTAL	15	9	4	15	11	3	24	22	2	19	18	1			
	NITRITE	15	15	0	15	3	12	24	3	21	19	3	16			
	TOTAL NITRATES	15	15	0	15	14	1	24	22	2	19	17	2			
	NITROGEN TOT KJELD	15	15	0	15	15	0	23	23	0	19	19	0			
	PH	15	15	0	15	15	0	24	24	0	19	19	0			
	PHOSPHORUS FIL REACT	15	15	0	15	4	11	.	.	.	.	.	.
	PHOSPHORUS TOTAL	15	14	1	15	2	13	.	.	.	.	.	.
	SULPHATE	9	9	0	9	9	0	11	11	0	8	8	0			
	TURBIDITY	15	15	0	15	15	0	23	23	0	19	19	0			
*TOTAL SCAN CHEMISTRY (LAB)		309	281	6	309	247	40	426	376	25	342	301	19			
METALS		SILVER			15	0	5	15	0	7	23	0	8	20	0	7

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE											
		RAW			TREATED			SITE 1			SITE 2		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
METALS	ALUMINUM	15	15	0	15	15	0	23	23	0	20	20	0
	ARSENIC	15	9	6	15	1	14	23	2	21	20	1	19
	BARIUM	15	15	0	15	15	0	23	23	0	20	20	0
	BORON	15	15	0	15	15	0	23	23	0	20	20	0
	BERYLLIUM	15	1	10	15	0	7	23	0	12	20	0	11
	CADMIUM	15	1	9	15	0	7	23	1	17	20	1	11
	COBALT	15	1	14	15	0	15	23	2	20	20	1	18
	CHROMIUM	15	12	3	15	8	7	23	11	10	20	8	12
	COPPER	15	15	0	15	15	0	23	23	0	20	20	0
	IRON	15	14	0	15	0	8	23	0	11	20	9	10
	MERCURY	15	5	8	15	5	8	12	8	4	10	5	4
	MANGANESE	15	14	1	15	15	0	23	23	0	20	19	1
	MOLYBDENUM	15	13	2	15	15	0	23	23	0	20	20	0
	NICKEL	15	3	10	15	2	6	23	9	12	20	10	7
	LEAD	15	14	1	15	2	12	23	20	3	20	18	1
	ANTIMONY	15	7	8	15	9	6	23	12	11	20	8	12
	SELENIUM	15	0	15	15	0	15	23	0	23	20	0	20
	STRONTIUM	15	15	0	15	15	0	23	23	0	20	20	0
	TITANIUM	15	15	0	15	15	0	23	23	0	20	20	0
	THALLIUM	15	0	7	15	0	6	23	0	10	20	0	9
	URANIUM	15	15	0	15	15	0	23	23	0	20	20	0
	VANADIUM	15	15	0	15	9	6	23	18	5	20	10	10
	ZINC	15	15	0	15	15	0	23	23	0	20	20	0
*TOTAL SCAN METALS		360	229	99	360	186	124	541	313	167	470	270	152
*TOTAL GROUP INORGANIC & PHYSICAL		716	557	105	757	521	164	1087	809	192	911	670	171

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE						SITE 1			SITE 2		
		RAW		TOTAL	TREATED		TOTAL	TOTAL		TOTAL	TOTAL		TOTAL
		POSITIVE	TRACE		POSITIVE	TRACE		POSITIVE	TRACE		POSITIVE	TRACE	
CHLOROAROMATICS	HEXACHLOROBUTADIENE	14	0	0	13	0	0	12	0	0	10	0	0
	123 TRICHLOROBENZENE	14	0	0	13	0	0	12	0	0	10	0	0
	1234 T-CHLOROBENZENE	14	0	0	13	0	0	12	0	0	10	0	0
	1235 T-CHLOROBENZENE	14	0	0	13	0	0	12	0	0	10	0	0
	124 TRICHLOROBENZENE	14	0	0	13	0	0	12	0	0	10	0	0
	1245 T-CHLOROBENZENE	14	0	0	13	0	0	12	0	0	10	0	0
	135 TRICHLOROBENZENE	14	0	0	13	0	0	12	0	0	10	0	0
	HCB	14	0	0	13	0	0	12	0	0	10	0	0
	HEXACHLOROETHANE	14	0	0	13	0	0	12	0	1	10	0	1
	OCTACHLOROSTYRENE	14	0	0	13	0	0	12	0	0	10	0	0
	PENTACHLOROBENZENE	14	0	0	13	0	0	12	0	0	10	0	0
	236 TRICHLOROTOLUENE	14	0	0	13	0	0	12	0	0	10	0	0
	245 TRICHLOROTOLUENE	14	0	0	13	0	0	12	0	0	10	0	0
	26A TRICHLOROTOLUENE	14	0	0	13	0	0	12	0	0	10	0	0
*TOTAL SCAN CHLOROAROMATICS		196	0	0	182	0	0	168	0	1	140	0	1
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.
	245-TRICHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.
	246-TRICHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.
	PENTACHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		12	0	0	6	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE						SITE 1			SITE 2		
		RAW		TREATED									
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PAH	PHENANTHRENE	14	0	0	13	0	0	.	.	.	.	.	.
	ANTHRACENE	14	0	0	13	0	0	.	.	.	.	.	.
	FLUORANTHENE	14	0	0	13	0	0	.	.	.	.	.	.
	PYRENE	14	0	0	13	0	0	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	14	0	0	13	0	0	.	.	.	.	.	.
	CHRYSENE	14	0	0	13	0	0	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	14	0	0	13	0	0	.	.	.	.	.	.
	BENZO(E) PYRENE	14	0	0	13	0	0	.	.	.	.	.	.
	BENZO(J) FLUORANTHEN	0	0	0	0	0	0	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	14	0	0	13	0	0	.	.	.	.	.	.
	PERYLENE	14	0	0	13	0	0	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	14	0	0	13	0	0	.	.	.	.	.	.
	BENZO(A) PYRENE	14	0	0	13	0	0	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	14	0	0	13	0	0	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	14	0	0	13	0	0	.	.	.	.	.	.
	INDENO(1,2,3-C,D) PY	14	0	0	13	0	0	.	.	.	.	.	.
	BENZO(B) CHRYSENE	14	0	0	13	0	0	.	.	.	.	.	.
	ANTHANTHRENE	0	0	0	0	0	0	.	.	.	.	.	.
	CORONENE	14	0	0	13	0	0	.	.	.	.	.	.
*TOTAL SCAN PAH		238	0	0	221	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	14	0	0	13	0	0	12	0	0	10	0	0
	ALPHA BHC	14	0	0	13	0	0	12	0	3	10	0	1

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE			TREATED			SITE 1			SITE 2		
		RAW			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PESTICIDES & PCB	BETA BHC	14	0	0	13	0	0	12	0	0	10	0	0
	LINDANE	14	0	1	13	0	2	12	0	4	10	0	2
	ALPHA CHLORDANE	14	0	0	13	0	0	12	0	0	10	0	0
	GAMMA CHLORDANE	14	0	0	13	0	0	12	0	0	10	0	0
	DIELDRIN	14	0	0	13	0	0	12	0	0	10	0	0
	METHOXYCHLOR	14	0	0	13	0	0	12	0	0	10	0	0
	ENDOSULFAN I	14	0	0	13	0	0	12	0	0	10	0	0
	ENDOSULFAN II	14	0	0	13	0	0	12	0	0	10	0	0
	ENDRIN	14	0	0	13	0	0	12	0	0	10	0	0
	ENDOSULFAN SULPHATE	14	0	0	13	0	0	12	0	0	10	0	0
	HEPTACHLOR EPOXIDE	14	0	0	13	0	0	12	0	0	10	0	0
	HEPTACHLOR	14	0	0	13	0	0	12	0	0	10	0	0
	MIREX	14	0	0	13	0	0	12	0	0	10	0	0
	OXYCHLORDANE	14	0	0	13	0	0	12	0	0	10	0	0
	OPDDT	14	0	0	13	0	0	12	0	0	10	0	0
	PCB	14	0	0	13	0	0	12	0	0	10	0	0
	DDD	14	0	0	13	0	0	12	0	0	10	0	0
	PPDDE	14	0	0	13	0	0	12	0	0	10	0	0
	PPDDT	14	0	0	13	0	0	12	0	0	10	0	0
	AMETRINE	15	0	0	13	0	0	12	0	0	10	0	0
	ATRAZINE	14	6	4	12	6	4	12	5	3	10	2	3
	ATRATONE	15	0	0	13	0	0	12	0	0	10	0	0
	CYANAZINE	15	0	1	13	0	1	12	0	1	10	0	0
	DES ETHYL ATRAZINE	9	0	1	7	0	1	6	0	1	4	0	0
	DES ETHYL SIMAZINE	9	0	0	7	0	0	6	0	0	4	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE						SITE 1			SITE 2		
		RAW		TREATED									
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
PESTICIDES & PCB	PROMETONE	15	0	0	13	0	0	12	0	0	10	0	0
	PROPazine	15	0	0	13	0	0	12	0	0	10	0	0
	PROMETRYNE	15	0	0	13	0	0	12	0	0	10	0	0
	METRIBUZIN	15	0	0	13	0	0	12	0	0	10	0	0
	SIMAZINE	15	0	0	13	0	0	12	0	0	10	0	0
	ALACHLOR	15	0	0	13	0	0	12	0	0	10	0	0
	METOLACHLOR	15	0	2	13	0	2	12	0	2	10	0	1
*TOTAL SCAN PESTICIDES & PCB		476	6	9	429	6	10	396	5	14	328	2	7
PHENOLICS	PHENOLICS	15	11	1	15	9	3	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		15	11	1	15	9	3	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	0	0	0	0	0	0	0	0	0	0	0	0
	2,4,5-T	2	0	0	1	0	0	.	.	.	.	.	.
	2,4-D	2	0	0	1	0	0	.	.	.	.	.	.
	2,4-DICHLOROPHENOXYBUTYRIC	2	0	0	1	0	0	.	.	.	.	.	.
	2,4-D PROPYNIC ACID	2	0	0	1	0	0	.	.	.	.	.	.
	DICAMBA	2	0	0	1	0	0	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.
	SILVEX	2	0	0	1	0	0	.	.	.	.	.	.
	DIAZINON	2	0	0	2	0	0	.	.	.	.	.	.

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE		RAW		TREATED		SITE 1			SITE 2		
		TOTAL		POSITIVE		POSITIVE		TOTAL			TOTAL		
		TRACE		TRACE		TRACE		TRACE			TRACE		
SPECIFIC PESTICIDES	DICHLOROVOS	2	0	0	2	0	0	.	.	.	.	.	.
	CHLORPYRIFOS	2	0	0	2	0	0	.	.	.	.	.	.
	ETHION	2	0	0	2	0	0	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.
	MALATHION	2	0	0	2	0	0	.	.	.	.	.	.
	MEVINPHOS	2	0	0	2	0	0	.	.	.	.	.	.
	METHYL PARATHION	2	0	0	2	0	0	.	.	.	.	.	.
	METHYLTRITHION	2	0	0	2	0	0	.	.	.	.	.	.
	PARATHION	2	0	0	2	0	0	.	.	.	.	.	.
	PHORATE	2	0	0	2	0	0	.	.	.	.	.	.
	RELDAN	2	0	0	2	0	0	.	.	.	.	.	.
	RONNEL	2	0	0	2	0	0	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.
	BENONYL	2	0	0	2	0	0	.	.	.	.	.	.
	BUX	2	0	0	2	0	0	.	.	.	.	.	.
	CARBOFURAN	2	0	0	2	0	0	.	.	.	.	.	.
	CICP	2	0	0	2	0	0	.	.	.	.	.	.
	DIALATE	2	0	0	2	0	0	.	.	.	.	.	.
	EPTAM	2	0	0	2	0	0	.	.	.	.	.	.
	IPC	2	0	0	2	0	0	.	.	.	.	.	.
	PROPOXUR	2	0	0	2	0	0	.	.	.	.	.	.
	CARBARYL	2	0	0	2	0	0	.	.	.	.	.	.
	BUTYLATE	2	0	0	2	0	0	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		56	0	0	50	0	0	0	0	0	0	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE											
		RAW			TREATED			SITE 1			SITE 2		
		TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE			TOTAL POSITIVE TRACE		
VOLATILES	BENZENE	14	0	0	14	0	0	11	0	1	9	0	0
	TOLUENE	14	0	2	14	2	4	11	3	0	9	3	0
	ETHYLBENZENE	14	0	4	14	0	8	11	1	7	9	1	5
	P-XYLENE	14	0	0	13	0	0	9	0	0	7	0	0
	M-XYLENE	14	0	0	14	0	1	11	1	1	9	1	2
	O-XYLENE	14	0	1	14	0	1	11	1	1	9	1	3
	STYRENE	6	0	5	6	0	5	3	1	2	3	1	1
	1,1 DICHLOROETHYLENE	14	0	0	14	0	0	11	0	0	9	0	0
	METHYLENE CHLORIDE	14	0	0	14	0	0	11	0	0	9	0	0
	1,1,2 DICHLOROETHYLENE	14	0	0	14	0	0	11	0	0	9	0	0
	1,1 DICHLOROETHANE	14	0	0	14	0	0	11	0	0	9	0	0
	CHLOROFORM	14	0	1	14	14	0	11	11	0	9	9	0
	111, TRICHLOROETHANE	14	0	1	14	0	0	11	0	1	9	0	0
	1,2 DICHLOROETHANE	14	0	0	14	0	0	11	0	0	9	0	0
	CARBON TETRACHLORIDE	14	0	0	14	0	0	11	0	0	9	0	0
	1,2 DICHLOROPROPANE	14	0	0	14	0	0	11	0	0	9	0	0
	TRICHLOROETHYLENE	14	0	1	14	0	1	11	0	1	9	0	0
	DICHLOROBROMOMETHANE	14	0	1	14	13	1	11	11	0	9	9	0
	112 TRICHLOROETHANE	14	0	0	14	0	0	11	0	0	9	0	0
	CHLORODIBROMOMETHANE	14	0	1	14	13	1	11	11	0	9	9	0
	T-CHLOROETHYLENE	14	0	0	14	0	3	10	0	4	8	0	2
	BROMOFORM	14	0	0	14	0	4	11	0	3	9	0	1
	1122 T-CHLOROETHANE	14	0	0	14	0	0	11	0	0	9	0	0
	CHLOROBENZENE	14	0	0	14	0	0	11	0	0	9	0	0
	1,4 DICHLOROBENZENE	14	0	0	14	0	0	11	0	0	9	0	0

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	SITE						SITE 1			SITE 2		
		TOTAL	RAW	POSITIVE	TREATED	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
VOLATILES	1,3 DICHLOROBENZENE	14	0	0	14	0	0	11	0	0	9	0	0
	1,2 DICHLOROBENZENE	14	0	0	14	0	0	11	0	0	9	0	0
	TRIFLUOROCHLOROTOLUE	5	0	0	5	0	0	5	0	0	5	0	0
	ETHYLENE DIBROMIDE	14	0	0	14	0	0	11	0	0	9	0	0
	TOTL TRIHALOMETHANES	14	0	1	14	14	0	11	11	0	9	9	0
*TOTAL SCAN VOLATILES		403	0	18	402	56	29	313	51	21	257	43	14
*TOTAL GROUP ORGANIC		1396	17	28	1305	71	42	877	56	36	725	45	22

TOTAL		2164	624	133	2115	602	206	2013	879	228	1678	730	193

KEY TO TABLE 5 and 6

- A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
 - 1+. MAC for Total Trihalomethanes
 - 1*. MAC for Bacteriological Analyses
- Poor water quality is indicated when :
- total coliform counts $> 0 < 5$
 - P/A Bottle Test is present after 48 hours
 - Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
 - Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
 - Standard Plate Count should not exceed 500 organisms per ml at 35 °C within 48 hours
2. Interim Maximum Acceptable Concentration (IMAC)
 3. Maximum Desirable Concentration (MDC)
 4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness > 200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.
- B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
 2. Proposed MAC
 3. Interim MAC
 4. Aesthetic Objective (AO) (for xylenes, the AO is a total)
- C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
 2. Tentative GV
 3. Aesthetic GV
- D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
 2. Suggested No-Adverse Effect Level (SNAEL)
 3. Lifetime Health Advisory
 4. EPA Ambient Water Quality Criteria
- F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
 2. Aesthetic Guideline Level
 3. Maximum Admissable Concentration (MADC)
- G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE
- H USSR MAXIMUM PERMISSIBLE CONCENTRATION
- I NEW YORK STATE AMBIENT WATER GUIDELINE
- N/A NONE AVAILABLE

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident
!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only

PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

BACTERIOLOGICAL

AEROMONAS SP ()

DET'N LIMIT = N/A

GUIDELINE = 0 (A1)

	RAW	TREATED	SITE 1	SITE 2
JUL	.	.	.	0
AUG	.	.	1	.

E. COLI P/A ()

DET'N LIMIT = N/A

GUIDELINE = N/A

	RAW	TREATED	SITE 1	SITE 2
JUL	.	.	.	0
AUG	.	.	0	.

FECAL COLIFORM MF (CT/100ML)

DET'N LIMIT = 0

GUIDELINE = 0 (A1)

	RAW	TREATED	SITE 1	SITE 2
JAN	26	.	.	.
FEB	24	.	.	.
MAR	66	.	.	.
APR	68	.	.	.
MAY	41	.	.	.
JUN	22	.	.	.
JUL	280	.	.	.
AUG	19	.	.	.
SEP	30 T24	.	.	.
OCT	160 T24	.	.	.
NOV	100 <=>	.	.	.
	3200 A>	.	.	.
DEC	8 T48	.	.	.
	36 T24	.	.	.
	10 T24	.	.	.

FECAL COLIFORM ()

DET'N LIMIT = N/A

GUIDELINE = 0 (A1)

	RAW	TREATED	SITE 1	SITE 2
JUL	.	.	.	0
AUG	.	.	0	.

STANDRD PLATE CNT MF (CT/ML)

DET'N LIMIT = 0

GUIDELINE = 500/ML (A1)

	RAW	TREATED	SITE 1	SITE 2
JAN	10P	5	.	2
FEB	2400 >	8	.	7
MAR	2400 >	34	.	10
APR	1100	4	.	16
MAY	600	0	.	19
JUN	2400 >	56	.	960
JUL	2400 >	67	2400 >	2400 >
AUG	19000	37	1900	.
SEP	.	0 <=>	520	.
OCT	.	2 <=>	0 <=>	100 T24
NOV	.	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

CHEMISTRY (LAB)

ALKALINITY (MG/L)

DET'N LIMIT = .200

GUIDELINE = 30-500 (A4)

JAN	282.500	268.400	264.600	262.400	259.300	528.500
FEB	188.100	153.300	155.600	155.700	157.300	IRE
MAR	171.300	146.300	162.100	163.100	152.500	158.000
APR	210.500	189.400	185.100	185.100	181.200	187.900
MAY	207.400	195.100	193.400	196.600	194.500	193.900
JUN	222.800	198.800	202.400	204.000	205.000	204.800
JUL	171.700	161.400	161.000	174.400	166.200	165.600
AUG	159.200	131.900	137.800	133.200	.	.
SEP	185.600	169.700	171.200	169.900	.	.
OCT	187.900	172.800	173.500	169.800	171.300	172.400
NOV	194.600	161.000	.	.	.	.
	148.400	117.800	126.400	116.100	140.800	138.600
DEC	260.500	247.300	.	.	.	.
	237.300	232.100	230.400	228.000	229.500	212.800
	283.500	273.000	.	.	.	.

CALCIUM (MG/L)

DET'N LIMIT = .100

GUIDELINE = 100 (F2)

JAN	126.000	120.000	126.000	125.000	136.000	127.000
FEB	93.200	92.200	93.800	93.600	95.400	IRE
MAR	79.600	76.600	80.000	85.600	79.400	83.800
APR	97.800	102.000	95.200	97.600	95.600	98.200
MAY	82.800	84.200	80.800	84.000	81.600	80.200
JUN	85.400	84.800	86.000	77.200	88.000	89.800
JUL	62.800	63.000	63.800	71.800	64.600	63.200
AUG	69.000	69.000	71.600	70.400	.	.
SEP	73.800	71.200	71.200	69.600	.	.
OCT	78.000	76.200	76.000	74.600	74.600	74.200
NOV	99.000	95.000	.	.	.	.
	91.400	97.200	96.200	92.000	100.000	102.000
DEC	117.000	115.000	.	.	.	.
	116.000	113.000	113.000	113.000	116.000	100.000
	122.000	134.000	.	.	.	.

CYANIDE (MG/L)

DET'N LIMIT = 0.001

GUIDELINE = .200 (A1)

JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT			DISTRIBUTION SYSTEM		
	RAW	TREATED	SITE 1	SITE 2		
				STANDING	FREE FLOW	
NOV	.	18 T24	.	29 T24	.	25 T24
DEC	.	2 <=>	.	.	.	.
	.	2 <=>	.	5 <=>	.	7 <=>
	.	3 <=>	.	.	.	.
<hr/>						
P/A BOTTLE ()	DET'N LIMIT = 0			GUIDELINE = 0 (A1*)		
JAN	.	0	.	0	.	0
FEB	.	0	.	0	.	0
MAR	.	0	.	0	.	0
APR	.	0	.	0	.	0
MAY	.	0	.	0	.	0
JUN	.	0	.	0	.	0
JUL	.	0	.	0	.	1
AUG	.	0	.	1	.	.
<hr/>						
STAPH AUREUS ()	DET'N LIMIT = N/A			GUIDELINE = 0 (A1)		
JUL	.	.	.	.	.	0
AUG	.	.	.	0	.	.
<hr/>						
COLIFORM ()	DET'N LIMIT = N/A			GUIDELINE = 0 (A1)		
JUL	.	.	.	.	.	1
AUG	.	.	.	0	.	.
<hr/>						
TOTAL COLIFORM MF (CT/100ML)	DET'N LIMIT = 0			GUIDELINE = 5/100ML(A1)		
JAN	3600	0	.	0	.	0
FEB	2400	0	.	0	.	0
MAR	24000 A3C	0	.	0	.	0
APR	5600	0	.	0	.	0
MAY	700	0	.	0	.	0
JUN	48 A3C	1	.	0	.	0
JUL	1900 A3C	0	.	0	.	3
AUG	200	0	.	0	.	.
SEP	300 <=>	0 T24	.	0 T24	.	.
OCT	1900 T24	0 T24	.	0 T24	.	0 T24
NOV	34000 T24	0 T24	.	.	.	.
	80000 R48	0 T24	.	0 T24	.	0 T24
DEC	3300 A3C	0 T24	.	.	.	.
	2000 T24	0 T24	.	0 T24	.	0 T24
	6300 A3C	0 T24	.	.	.	.
<hr/>						
T COLIFORM BCKGRD MF (CT/100ML)	DET'N LIMIT = 0			GUIDELINE = N/A		
JAN	4100	0	.	0	.	0

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	4900	0	.	0	.	0
MAR	90000	0	.	0	.	0
APR	9300	0	.	0	.	0
MAY	18000	0	.	0	.	13
JUN	52000	4	.	0	.	0
JUL	90000	0	.	2400 >	.	41
AUG	13900	0	.	103	.	.
SEP	53000 A3C	0 T24	.	0 T24	.	.
OCT	24000 T24	0 T24	.	0 T24	.	0 T24
NOV	02000 T24	0 T24	.	.	.	.
	00000 R48	0 T24	.	0 T24	.	3 T24
DEC	54000 A3C	0 T24	.	.	.	.
	14300 T24	0 T24	.	0 T24	.	0 T24
	29000 A3C	0 T24	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE		RAW	TREATED	SITE 1		SITE 2	
TYPE				STANDING	FREE FLOW	STANDING	FREE FLOW

CHEMISTRY (FLD)							
FLD CHLORINE (COMB) ()				DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.		.300	.300	.850	.300	.400
FEB	.		.	.200	.200	.200	.100
MAR	.		.400	.100	.100	.200	.300
APR	2.000		.300	.200	.200	.100	.200
MAY	.		.300	.050	.050	.100	.
JUN	.		.300	.100	.100	.100	.100
JUL	.		.400	.	.	.	.200
AUG	.		.400	.100	.300	.	.
SEP	.		.100	.100	.200	.	.
OCT	.		.300	.100	.200	.200	.100
NOV	.		.400	.	.	.	.
	.		.600	.	.400	.100	.300
DEC	.		.350	.	.	.	.
	.		.300	.	.	.	.
	.		.100	.	.	.	.

FLD CHLORINE FREE ()				DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.		.800	.100	.700	.100	.100
FEB	.		1.500	.100	.700	.100	.400
MAR	.		.200	.100	.300	.100	.100
APR	.300		.700	.100	.100	.100	.200
MAY	.		.500	.100	.100	.100	.100
JUN	.		1.000	.100	.300	.100	.100
JUL	.		.600	.100	.100	.	.100
AUG	.		.500	.	.	.	.
SEP	.		1.400	.100	.100	.	.
OCT	.		.800	.	.200	.100	.200
NOV	.		.600	.	.	.	.
	.		.600	.100	.300	.	.
DEC	.		.600	.	.	.	.
	.		1.000	.	.	.	.
	.		1.000	.	.	.	.

FLD CHLORINE (TOTAL) ()				DET'N LIMIT = N/A		GUIDELINE = N/A	
JAN	.		1.100	.400	1.550	.400	.500
FEB	.		1.500	.300	.900	.300	.500
MAR	.		.600	.200	.400	.300	.400
APR	.500		1.000	.300	.300	.200	.400
MAY	.		.800	.150	.150	.200	.100
JUN	.		1.300	.200	.400	.200	.200
JUL	.		1.000	.100	.100	.100	.300
AUG	.		.900	.100	.300	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

SEP	.	1.500	.200	.300	.	.
OCT	.	1.100	.100	.400	.300	.300
NOV	.	1.000	.	.	.	.
	.	1.200	.100	.700	.100	.300
DEC	.	.950	.	.	.	.
	.	1.300	.	.	.	.
	.	1.100	.	.	.	.

FLD PH (DMNSLESS)

DET'N LIMIT = N/A

GUIDELINE = 6.5-8.5(A4)

JAN	7.700	7.500	7.500	7.500	7.500	7.500
FEB	7.600	7.200	7.200	6.900	7.100	6.900
MAR	7.900	7.700	7.700	7.600	7.700	7.700
APR	8.100	7.800	7.400	7.400	7.300	7.300
MAY	8.000	7.400	7.500	7.500	7.400	7.500
JUN	7.900	7.300	7.500	7.400	7.300	7.300
JUL	7.800	7.400	7.500	7.400	7.300	7.300
AUG	7.800	7.200	7.200	7.200	.	.
SEP	7.900	7.500	7.500	7.500	.	.
OCT	7.900	7.500	7.500	7.500	7.500	7.600
NOV	8.000	7.200	.	.	.	.
	8.000	6.800	7.100	6.900	7.100	7.000
DEC	8.300	7.700	.	.	.	.
	7.900	7.700	.	.	.	.
	8.100	7.700	.	.	.	.

FLD TEMPERATURE (DEG.C)

DET'N LIMIT = N/A

GUIDELINE = 15 (A1)

JAN	3.000	4.000	18.000	6.000	20.000	20.000
FEB	1.000	1.000	18.000	5.000	9.000	4.000
MAR	3.000	2.000	20.000	6.000	19.000	.400
APR	9.000	9.000	15.000	9.000	10.000	7.000
MAY	17.000	17.000	18.500	13.000	11.000	12.500
JUN	21.000	20.500	21.000	19.000	18.000	17.000
JUL	26.000	26.500	23.000	23.500	24.000	24.000
AUG	28.000	28.000	23.000	25.500	.	.
SEP	19.000	19.000	22.000	21.000	.	.
OCT	11.000	12.000	21.500	16.500	17.000	16.000
NOV	7.000	7.000	.	.	.	.
	6.500	7.000	22.000	11.500	11.000	12.000
DEC	.300	.300	.	.	.	.
	4.000	3.000	.	.	.	.
	1.500	1.000	.	.	.	.

FLD TURBIDITY (FTU)

DET'N LIMIT = N/A

GUIDELINE = 1.0 (A1)

JAN	9.000	.330	.280	.270	.260	.250
-----	-------	------	------	------	------	------

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	78.000	.430	.980	.490	.530	.420
APR	49.000	.700	.160	.160	.320	.320
MAY	51.000	.110	.320	.180	.510	.290
JUN	20.000	.210	.	.	.310	.340
JUL	25.000	.560	.550	.530	1.370	1.170
AUG	32.000	.340	.720	.420	.	.
SEP	28.000	.210	.360	.280	.	.
OCT	24.000	.160	.	.	.	.
NOV	52.000	.200	.	.	.	.
	268.000	.190	.380	.280	.880	.550
DEC	7.000	.290	.	.	.	.
	12.000	.120	.	.	.	.
	7.100	.230	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

RAW

TREATED

SITE 1

SITE 2

TYPE

STANDING

FREE FLOW

STANDING

FREE FLOW

SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	.003 <T	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.

CHLORIDE (MG/L)

DET'N LIMIT = .200

GUIDELINE = 250 (A3)

JAN	33.800	36.800	36.600	36.200	37.000	36.300
FEB	29.900	33.000	33.000	33.100	33.100	IRE
MAR	21.000	19.000	20.900	22.800	20.100	21.500
APR	27.300	28.800	27.600	28.400	28.100	27.900
MAY	28.700	29.900	30.500	30.300	30.300	30.000
JUN	25.800	29.000	29.100	27.500	28.300	28.300
JUL	28.600	31.500	!IS	30.100	31.300	30.800
AUG	28.100	31.500	31.200	29.800	.	.
SEP	21.800	23.700	24.100	24.100	.	.
OCT	23.400	25.300	25.300	25.100	26.000	25.000
NOV	27.300	31.400	.	.	.	.
	33.600	34.500	31.900	29.900	36.200	33.900
DEC	35.900	36.800	.	.	.	.
	33.100	34.800	34.400	34.700	35.400	33.900
	36.400	38.300	.	.	.	.

COLOUR (HZU)

DET'N LIMIT = .5

GUIDELINE = 5.0 (A3)

JAN	9.000	3.500	4.000	3.000	4.500	4.000
FEB	23.500	4.000	5.500	4.500	6.000	IRE
MAR	20.000	6.500	7.000	5.500	7.000	6.500
APR	20.000	4.000	5.000	4.500	5.500	5.500
MAY	12.500	4.000	4.000	4.000	4.500	4.500
JUN	14.000	3.500	3.000	4.000	5.000	5.000
JUL	11.500	5.000	!IS	4.000	8.000	8.000
AUG	19.500	5.000	6.000	5.500	.	.
SEP	8.500	4.000	3.500	3.000	.	.
OCT	11.500	3.000	3.500	3.000	5.500	5.500
NOV	25.500	6.000	.	.	.	.
	40.500	5.500	7.000	6.000	10.000	10.500
DEC	12.000	3.500	.	.	.	.
	13.000	4.500	5.500	4.500	6.500	6.000
	10.000	4.000	.	.	.	.

CONDUCTIVITY (UMHO/CM)

DET'N LIMIT = 1

GUIDELINE = 400 (F2)

JAN	828	858	856	848	847	855
-----	-----	-----	-----	-----	-----	-----

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	612	643	647	648	650	IRE
MAR	519	540	576	592	554	575
APR	618	650	639	641	632	647
MAY	603	634	635	642	635	631
JUN	591	616	623	621	631	626
JUL	512	543	531	561	535	534
AUG	510	539	538	535	.	.
SEP	511	527	529	527	.	.
OCT	525	547	548	543	545	545
NOV	629	663	.	.	.	.
DEC	612	679	671	644	709	692
	771	785	.	.	.	.
	739	762	760	756	759	732
	809	835	.	.	.	.

FLUORIDE (MG/L)

DET'N LIMIT = .01

GUIDELINE = 2.400 (A1)

JAN	.140	.100	.120	.080	.120	.100
FEB	.140	.080	.080	.080	.080	IRE
MAR	.110	.100	.120	.120	.100	.110
APR	.130	.100	.100	.100	.090	.100
MAY	.140	.120	.110	.110	.110	.110
JUN	.160	.120	.120	.120	.120	.120
JUL	.170	.150	!IS	.150	.170	.170
AUG	.190	.140	.140	.140	.	.
SEP	.140	.140	.140	.120	.	.
OCT	.180	.160	.160	.140	.140	.140
NOV	.140	.100	.	.	.	.
DEC	.200	.080	.060	.060	.060	.060
	.140	.120	.	.	.	.
	.140	.140	.160	.140	.160	.140
	.120	.100	.	.	.	.

HARDNESS (MG/L)

DET'N LIMIT = .500

GUIDELINE = 80-100 (A4)

JAN	408.000	394.000	404.000	406.000	430.000	412.000
FEB	297.000	296.000	300.000	297.000	303.000	IRE
MAR	255.000	238.000	248.000	267.000	248.000	261.000
APR	317.000	326.000	306.000	313.000	307.000	316.000
MAY	284.000	288.000	280.000	288.000	281.000	277.000
JUN	290.000	287.000	290.000	269.000	294.000	301.000
JUL	240.000	238.000	241.000	261.000	242.000	239.000
AUG	236.000	238.000	241.000	239.000	.	.
SEP	255.000	247.000	247.000	239.000	.	.
OCT	266.000	259.000	260.000	256.000	257.000	255.000
NOV	312.000	301.000	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

RAW

TREATED

SITE 1

SITE 2

TYPE

STANDING

FREE FLOW

STANDING

FREE FLOW

NOV	291.000	307.000	302.000	287.000	318.000	322.000
DEC	379.000	376.000	.	.	.	.
	372.000	363.000	361.000	362.000	371.000	330.000
	395.000	425.000	.	.	.	.

IONCAL (DMNSLESS)

DET'N LIMIT = N/A

GUIDELINE = N/A

JAN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
FEB	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
APR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
MAY	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.000 NAF
JUL	.209	4.271	.000 NAF	.240	1.524	1.988
AUG	.256	.319	1.101	1.199	.	.
SEP	2.093	.334	.369	2.688	.	.
OCT	4.429	1.812	2.266	2.260	1.217	.768
NOV	.637	5.075	.	.	.	.
	2.693	1.241	.337	.875	1.193	3.670
DEC	.924	6.053	.	.	.	.
	.262	1.982	1.902	.511	.853	5.300
	4.578	3.638	.	.	.	.

LANGELIERS INDEX (DMNSLESS)

DET'N LIMIT = N/A

GUIDELINE = N/A

JAN	1.379 NAF	1.244 NAF	1.269 NAF	1.272 NAF	1.324 NAF	1.593 NAF
FEB	.882 NAF	.437 NAF	.541 NAF	.530 NAF	.612 NAF	.
MAR	.892 NAF	.685 NAF	.815 NAF	.785 NAF	.777 NAF	.774 NAF
APR	1.071 NAF	.752 NAF	.913 NAF	.863 NAF	.826 NAF	.862 NAF
MAY	1.134 NAF	.903 NAF	.881 NAF	.974 NAF	1.018 NAF	.919 NAF
JUN	1.150 NAF	.875 NAF	.828 NAF	.945 NAF	.983 NAF	.882 NAF
JUL	.911	.682	1.098 NAF	.651	.647	.586
AUG	.669	.294	.330	.338	.	.
SEP	.875	.749	.802	.699	.	.
OCT	1.203	.834	.855	.828	.931	1.002
NOV	1.172	.970	.	.	.	.
	.751	.144	.460	.225	.412	.475
DEC	1.394	1.214	.	.	.	.
	1.312	1.140	1.256	1.142	1.206	1.110
	1.397	1.190	.	.	.	.

MAGNESIUM (MG/L)

DET'N LIMIT = .050

GUIDELINE = 30 (F2)

JAN	23.000	22.700	22.100	22.700	22.100	22.800
FEB	15.600	15.900	15.900	15.500	15.600	15.900
MAR	13.800	11.500	11.800	12.900	12.000	12.400

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	17.800	17.400	16.500	16.900	16.600	17.100
MAY	18.700	18.900	19.000	19.000	18.700	18.700
JUN	18.600	18.200	18.300	18.600	18.200	18.700
JUL	20.300	19.600	19.700	19.900	19.700	19.700
AUG	15.500	15.900	15.200	15.300	.	.
SEP	17.100	16.800	16.700	16.000	.	.
OCT	17.300	16.700	17.000	17.000	17.200	17.000
NOV	15.800	15.600	.	.	.	.
DEC	15.200	15.600	14.900	14.000	16.500	16.200
	21.500	21.400	.	.	.	.
	20.200	19.900	19.100	19.500	19.800	19.300
	22.200	22.200	.	.	.	.

SODIUM (MG/L)

DET'N LIMIT = .200

GUIDELINE = 200 (C3)

JAN	13.800	20.800	18.600	18.000	17.800	18.400
FEB	11.200	17.200	17.200	17.000	17.000	IRE
MAR	7.400	15.000	16.600	17.600	16.400	17.000
APR	9.600	15.200	15.000	15.200	15.400	15.200
MAY	13.400	16.800	17.200	17.200	17.200	16.800
JUN	12.200	14.600	15.600	15.400	16.000	15.000
JUL	15.200	18.800	17.400	17.400	17.800	18.000
AUG	12.400	15.600	15.600	15.000	.	.
SEP	11.200	14.200	14.800	14.400	.	.
OCT	12.600	15.600	16.000	16.400	16.200	16.200
NOV	8.000	14.600	.	.	.	.
DEC	8.800	14.600	15.600	14.800	16.200	16.800
	14.200	17.000	.	.	.	.
	12.600	17.800	17.600	17.400	18.000	17.200
	15.600	21.800	.	.	.	.

AMMONIUM TOTAL (MG/L)

DET'N LIMIT = 0.002

GUIDELINE = .05 (F2)

JAN	.126	.016	.026	.018	.028	.020
FEB	.008 <T	.010	.024	.012	.014	IRE
MAR	.016	.120	.066	.020	.090	.056
APR	.002 <T	.016	.018	.018	.018	.028
MAY	.006 <T	.010	.024	.012	.024	.022
JUN	.074	.014	.026	.020	.018	.022
JUL	.014	.002 <T	.010	.008 <T	.042	.012
AUG	BDL	BDL	.066	.018	.	.
SEP	.006 <T	.010	.020	.016	.	.
OCT	.070	.028	.030	.028	.024	.024
NOV	.032	.010	.	.	.	.
DEC	BDL	.006 <T	.012	.006 <T	.008 <T	.010
	.050	.010	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

RAW

TREATED

SITE 1

SITE 2

TYPE

STANDING

FREE FLOW

STANDING

FREE FLOW

DEC	.014 .010	.008 <T .016	.018 .	.010 .	.012 .	.018 .
-----	--------------	-----------------	-----------	-----------	-----------	-----------

NITRITE (MG/L)

DET'N LIMIT = 0.001

GUIDELINE = 1.000 (A1)

JAN	.025	.001 <T	.002 <T	.001 <T	.001 <T	.001 <T
FEB	.283	.008	.003 <T	.001 <T	.002 <T	!RE
MAR	.043	.013	.005	.002 <T	.008	.004 <T
APR	.050	.002 <T	.002 <T	.002 <T	.002 <T	.002 <T
MAY	.069	.001 <T	.002 <T	.002 <T	.003 <T	.003 <T
JUN	.040	.001 <T	.003 <T	.003 <T	.003 <T	.003 <T
JUL	.073	.001 <T	.002 <T	.002 <T	.007	.007
AUG	.009	.004 <T	.003 <T	.005	.	.
SEP	.023	.005	.006	.003 <T	.	.
OCT	.021	.003 <T	.004 <T	.003 <T	.004 <T	.004 <T
NOV	.049	.003 <T	.	.	.	.
	.047	.001 <T	.002 <T	.001 <T	.004 <T	.004 <T
DEC	.025	.004 <T	.	.	.	.
	.043	.002 <T	.003 <T	.002 <T	.003 <T	.002 <T
	.019	.001 <T	.	.	.	.

TOTAL NITRATES (MG/L)

DET'N LIMIT = .020

GUIDELINE = 10.000 (A1)

JAN	7.630	7.530	8.190	8.100	8.700	8.160
FEB	7.240	6.910	6.960	7.150	7.430	!RE
MAR	6.500	5.660	6.190	6.670	6.470	6.410
APR	7.280	7.130	7.130	7.030	7.300	7.230
MAY	2.400	2.180	2.210	2.240	2.300	2.170
JUN	.780	.755	.905	.735	1.290	.750
JUL	.115	.035 <T	.035 <T	.050 <T	.035 <T	.035 <T
AUG	1.640	1.490	2.570	2.040	.	.
SEP	.510	.435	.435	.440	.	.
OCT	.535	.530	.505	.525	.525	.520
NOV	9.850	12.500 AED	.	.	.	.
	15.900	15.700	15.000	14.800	14.900	14.400
DEC	7.850	7.850	.	.	.	.
	9.050	9.150	9.070	8.700	8.830	8.850
	7.300	7.250	.	.	.	.

NITROGEN TOT KJELD (MG/L)

DET'N LIMIT = .020

GUIDELINE = N/A

JAN	.610	.390	.540	.410	.520	.400
FEB	1.010	.500	.690	.520	.510	!RE
MAR	.780	.570	.570	.550	.570	.570
APR	.870	.580	.570	.590	.580	.550
MAY	.780	.370	.400	.290	.420	.370

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	.270	.150	.800	.330	.410	.390
JUL	.650	.390	.115	.380	.540	.430
AUG	.820	.550	.810	.580	.	.
SEP	.520	.380	.360	.330	.	.
OCT	.430	.210	.230	.210	.250	.190
NOV	.840	.520	.	.	.	.
	2.350	.590	.580	.570	.550	.590
DEC	.600	.470	.	.	.	.
	.640	.500	.540	.470	.480	.480
	.590	.440	.	.	.	.
<hr/>						
PH (DIMENSIONLESS)		DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)		
JAN	8.310	8.220	8.230	8.240	8.260	8.250
FEB	8.110	7.760	7.850	7.840	7.910	7.910
MAR	8.220	8.100	8.170	8.110	8.160	8.120
APR	8.230	7.940	8.140	8.080	8.060	8.070
MAY	8.370	8.160	8.160	8.230	8.290	8.200
JUN	8.340	8.120	8.060	8.220	8.200	8.090
JUL	8.340	8.140	8.550	8.020	8.080	8.030
AUG	8.090	7.800	7.800	7.830	.	.
SEP	8.200	8.130	8.180	8.090	.	.
OCT	8.500	8.180	8.200	8.190	8.290	8.360
NOV	8.360	8.260	.	.	.	.
	8.090	7.560	7.850	7.670	7.740	7.800
DEC	8.390	8.240	.	.	.	.
	8.350	8.200	8.320	8.210	8.260	8.260
	8.340	8.110	.	.	.	.
<hr/>						
PHOSPHORUS FIL REACT (MG/L)		DET'N LIMIT = .0005		GUIDELINE = N/A		
JAN	.025	.003	.	.	.	.
FEB	.052	.001 <T	.	.	.	.
MAR	.051	.002	.	.	.	.
APR	.026	.002 <T	.	.	.	.
MAY	.016	.001 <T	.	.	.	.
JUN	.004	.001 <T	.	.	.	.
JUL	.014	.000 <T	.	.	.	.
AUG	.017	.000 <T	.	.	.	.
SEP	.007	.002 <T	.	.	.	.
OCT	.016	.004	.	.	.	.
NOV	.051	.002 <T	.	.	.	.
	.090	.005	.	.	.	.
DEC	.019	.001 <T	.	.	.	.
	.021	.001 <T	.	.	.	.
	.005	.001 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

RAW

TREATED

SITE 1

SITE 2

TYPE

STANDING

FREE FLOW

STANDING

FREE FLOW

PHOSPHORUS TOTAL (MG/L)

DET'N LIMIT = .002

GUIDELINE = .40 (F2)

JAN	.029	.003 <T	.	.	.	.
FEB	.091	.005 <T	.	.	.	.
MAR	.129	.008 <T	.	.	.	.
APR	.103	.006 <T	.	.	.	.
MAY	.108	.004 <T	.	.	.	.
JUN	.008 <T	.004 <T	.	.	.	.
JUL	.076	.014	.	.	.	.
AUG	.067	.003 <T	.	.	.	.
SEP	.048	.011	.	.	.	.
OCT	.048	.005 <T	.	.	.	.
NOV	.115	.003 <T	.	.	.	.
	.610	.005 <T	.	.	.	.
DEC	.033	.008 <T	.	.	.	.
	.041	.005 <T	.	.	.	.
	.024	.002 <T	.	.	.	.

SULPHATE ()

DET'N LIMIT = .200

GUIDELINE = 500. (A3)

JUL	59.060	81.410	!IS	79.420	72.040	71.450
AUG	55.350	85.570	78.250	82.270	.	.
SEP	52.900	71.100	70.100	69.900	.	.
OCT	55.900	74.300	74.000	75.300	75.800	75.600
NOV	60.920	96.100	.	.	.	.
	63.000	107.500	105.000	101.400	107.500	103.100
DEC	89.000	105.500	.	.	.	.
	81.500	93.000	91.500	90.500	92.000	90.000
	85.120	99.720	.	.	.	.

TURBIDITY (FTU)

DET'N LIMIT = .02

GUIDELINE = 1.00 (A1)

JAN	9.000	3.300 RRV	.850	1.110	.370	.530
FEB	29.000	.170	.240	.120	.290	!RE
MAR	82.000	.370	1.400	.150	.410	.160
APR	62.000	.250	.800	.530	.430	.480
MAY	80.000	.290	.140	.800	.170	.100
JUN	14.000	.270	.380	.360	.450	.330
JUL	24.000	.640	!IS	.570	1.100	1.100
AUG	12.900	.660	.950	.700	.	.
SEP	28.000	.880	.980	.380	.	.
OCT	27.000	.340	.410	.330	.740	.770
NOV	68.000	.960	.	.	.	.
	200.000 >	.570	.640	.400	.970	.750
DEC	11.000	5.500	.	.	.	.
	15.000	.300	.620	.330	.680	.620
	7.100	.360	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW

METALS						
SILVER (UG/L)			DET'N LIMIT = .020		GUIDELINE = 50. (A1)	
JAN	BDL	BDL	.040 <T	.050 <T	.020 <T	BDL
FEB	.020 <T	BDL	.070 <T	.040 <T	.030 <T	.080 <T
MAR	2.210 <T	.020 <T	BDL	BDL	BDL	BDL
APR	.030 <T	.030 <T	.030 <T	BDL	.030 <T	BDL
MAY	BDL	BDL	BDL	! IS	BDL	BDL
JUN	BDL	.050 <T	.030 <T	BDL	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	BDL	BDL	BDL	BDL	.	.
SEP	BDL	.070 <T	BDL	BDL	.	.
OCT	BDL	BDL	BDL	.060 <T	.040 <T	BDL
NOV	BDL	.030 <T	.	.	.	.
	BDL	BDL	BDL	BDL	.080 <T	BDL
DEC	.040 <T	.030 <T	.	.	.	.
	BDL	BDL	.040 <T	BDL	.030 <T	BDL
	.030 <T	.130 <T	.	.	.	.

ALUMINUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 100. (A4)	
JAN	53.000	27.000	68.000	140.000	45.000	16.000
FEB	390.000	18.000	24.000	17.000	24.000	14.000
MAR	590.000	220.000	340.000	57.000	160.000	60.000
APR	450.000	33.000	99.000	26.000	27.000	20.000
MAY	420.000	66.000	54.000	! IS	35.000	36.000
JUN	310.000	56.000	48.000	45.000	42.000	43.000
JUL	270.000	60.000	45.000	49.000	60.000	60.000
AUG	8.800	190.000	220.000	49.000	.	.
SEP	230.000	110.000	76.000	61.000	.	.
OCT	200.000	56.000	55.000	43.000	37.000	38.000
NOV	520.000	35.000	.	.	.	.
	1600.000	29.000	17.000	15.000	21.000	13.000
DEC	130.000	87.000	.	.	.	.
	250.000	38.000	50.000	33.000	30.000	26.000
	98.000	37.000	.	.	.	.

ARSENIC (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 50.0 (A1)	
JAN	1.000	.770 <T	1.300	.840 <T	.870 <T	.650 <T
FEB	.870 <T	.420 <T	.460 <T	.400 <T	.470 <T	.370 <T
MAR	2.200	.360 <T	.360 <T	.410 <T	.270 <T	.240 <T
APR	.610 <T	.280 <T	.250 <T	.280 <T	.330 <T	.440 <T
MAY	1.000 <T	.450 <T	.390 <T	! IS	.450 <T	.550 <T
JUN	1.200	.380 <T	.390 <T	.290 <T	.290 <T	.210 <T
JUL	2.300	.430 <T	.280 <T	.340 <T	.350 <T	.280 <T
AUG	.820 <T	.850 <T	.920 <T	.940 <T	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

SITE TYPE	WATER TREATMENT PLANT				DISTRIBUTION SYSTEM	
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	1.300	.460 <T	.590 <T	.430 <T	.	.
OCT	1.400	.730 <T	.560 <T	.700 <T	.640 <T	.430 <T
NOV	.720 <T	.310 <T	.	.	.	.
	1.500	.370 <T	.410 <T	.370 <T	.560 <T	.400 <T
DEC	1.100	.380 <T	.	.	.	.
	1.900	1.200	.990 <T	1.400	1.000 <T	1.200
	.540 <T	.830 <T	.	.	.	.
<hr/>						
BARIUM (UG/L)		DET'N LIMIT = 0.020		GUIDELINE = 1000. (A1)		
JAN	39.000	15.000	21.000	18.000	18.000	16.000
FEB	41.000	26.000	25.000	24.000	26.000	25.000
MAR	33.000	15.000	17.000	15.000	14.000	16.000
APR	40.000	28.000	27.000	25.000	24.000	26.000
MAY	49.000	34.000	36.000	!!S	32.000	30.000
JUN	51.000	45.000	45.000	47.000	44.000	46.000
JUL	49.000	47.000	46.000	48.000	40.000	41.000
AUG	9.000	59.000	54.000	56.000	.	.
SEP	50.000	45.000	44.000	44.000	.	.
OCT	47.000	39.000	46.000	41.000	41.000	41.000
NOV	43.000	37.000	.	.	.	.
	80.000	40.000	43.000	38.000	44.000	40.000
DEC	49.000	28.000	.	.	.	.
	49.000	33.000	38.000	32.000	32.000	31.000
	50.000	28.000	.	.	.	.
<hr/>						
BORON (UG/L)		DET'N LIMIT = 0.200		GUIDELINE = 5000. (A1)		
JAN	35.000	34.000	32.000	31.000	30.000	32.000
FEB	26.000	25.000	25.000	25.000	24.000	24.000
MAR	26.000	27.000	29.000	22.000	26.000	23.000
APR	29.000	30.000	31.000	28.000	30.000	26.000
MAY	51.000	41.000	43.000	!!S	41.000	59.000
JUN	66.000	55.000	76.000	80.000	88.000	60.000
JUL	56.000	62.000	55.000	51.000	60.000	61.000
AUG	57.000	97.000	59.000	90.000	.	.
SEP	89.000	41.000	120.000	120.000	.	.
OCT	86.000	84.000	94.000	92.000	87.000	90.000
NOV	28.000	95.000	.	.	.	.
	140.000	120.000	64.000	72.000	140.000	79.000
DEC	120.000	110.000	.	.	.	.
	100.000	110.000	86.000	110.000	110.000	110.000
	110.000	110.000	.	.	.	.
<hr/>						
BERYLLIUM (UG/L)		DET'N LIMIT = 0.010		GUIDELINE = .20 (H)		
JAN	BDL	BDL	BDL	BDL	BDL	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.010 <T	BDL	BDL	BDL	BDL	.020 <T
MAR	.030 <T	BDL	BDL	.010 <T	BDL	BDL
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	.060 <T	BDL	BDL	!!S	.020 <T	BDL
JUN	BDL	BDL	.040 <T	.030 <T	.030 <T	.030 <T
JUL	.040 <T	BDL	BDL	.020 <T	BDL	.040 <T
AUG	BDL	BDL	BDL	.020 <T	.	.
SEP	.130 <T	.050 <T	.160 <T	.150 <T	.	.
OCT	.080 <T	.090 <T	.090 <T	.210 <T	.180 <T	.170 <T
NOV	.120 <T	.180 <T	.	.	.	.
DEC	.520	.220 <T	.040 <T	.110 <T	.330 <T	.140 <T
	.260 <T	.230 <T	.	.	.	.
	.100 <T	.020 <T	BDL	.080 <T	.080 <T	.130 <T
	.140 <T	.170 <T	.	.	.	.

CADMIUM (UG/L)

DET'N LIMIT = 0.050

GUIDELINE = 5.000 (A1)

JAN	BDL	BDL	.060 <T	.120 <T	.200 <T	BDL
FEB	.100 <T	.140 <T	.150 <T	.100 <T	.180 <T	.100 <T
MAR	.080 <T	.070 <T	.090 <T	.060 <T	.060 <T	.070 <T
APR	.830	BDL	.080 <T	.060 <T	.060 <T	BDL
MAY	.150 <T	.100 <T	.100 <T	!!S	.150 <T	BDL
JUN	.060 <T	.110 <T	.080 <T	.080 <T	.090 <T	BDL
JUL	BDL	BDL	.060 <T	.060 <T	.060 <T	.060 <T
AUG	BDL	BDL	1.400	BDL	.	.
SEP	.110 <T	.080 <T	.090 <T	.060 <T	.	.
OCT	.060 <T	.070 <T	BDL	.160 <T	.100 <T	BDL
NOV	.070 <T	.060 <T	.	.	.	.
DEC	.100 <T	BDL	BDL	.060 <T	.590	BDL
	.060 <T	BDL	.	.	.	.
	BDL	BDL	BDL	BDL	BDL	BDL
	BDL	BDL	.	.	.	.

COBALT (UG/L)

DET'N LIMIT = 0.020

GUIDELINE = 1000 (H)

JAN	.660 <T	.630 <T	.820	.830	1.500	.550 <T
FEB	.350 <T	.130 <T	.130 <T	.100 <T	.160 <T	.120 <T
MAR	.640 <T	.060 <T	.150 <T	.190 <T	.200 <T	.130 <T
APR	.730 <T	.080 <T	BDL	.030 <T	.060 <T	BDL
MAY	.730 <T	.190 <T	.180 <T	!!S	.220 <T	.110 <T
JUN	.410 <T	.160 <T	.180 <T	.140 <T	.150 <T	.140 <T
JUL	.470 <T	.120 <T	.130 <T	.100 <T	.140 <T	.090 <T
AUG	.280 <T	.230 <T	.310 <T	.390 <T	.	.
SEP	.440 <T	.180 <T	.080 <T	.090 <T	.	.
OCT	.620 <T	.430 <T	.330 <T	.290 <T	.620 <T	.310 <T
NOV	.730 <T	.280 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

NOV	2.100	.160 <T	.080 <T	.150 <T	.150 <T	.100 <T
DEC	.210 <T	.170 <T	.	.	.	.
	.660 <T	.510 <T	.650 <T	.570 <T	.620 <T	.600 <T
	.450 <T	.450 <T	.	.	.	.

CHROMIUM (UG/L)

DET'N LIMIT = 0.100

GUIDELINE = 50. (A1)

JAN	1.300	.760 <T	.450 <T	.250 <T	.200 <T	.700 <T
FEB	.680 <T	.110 <T	BDL	BDL	.120 <T	.300 <T
MAR	1.500	1.200	.920 <T	.400 <T	.410 <T	.220 <T
APR	1.100	.270 <T	.390 <T	.420 <T	.430 <T	.390 <T
MAY	2.000	.630 <T	.850 <T	!!S	.560 <T	2.500
JUN	2.800	.160 <T	3.100	3.400	4.300	.770 <T
JUL	.700 <T	.160 <T	.190 <T	.260 <T	.270 <T	.240 <T
AUG	.150 <T	4.900	.430 <T	3.500	.	.
SEP	5.800	.180 <T	7.300	7.500	.	.
OCT	10.000	8.300	10.000	11.000	9.500	11.000
NOV	1.100	7.800	.	.	.	.
	12.000	9.000	2.600	3.900	10.000	4.400
DEC	11.000	9.600	.	.	.	.
	13.000	12.000	8.200	12.000	13.000	13.000
	6.100	10.000	.	.	.	.

COPPER (UG/L)

DET'N LIMIT = .100

GUIDELINE = 1000 (A3)

JAN	22.000	1.200	22.000	3.500	150.000	2.800
FEB	8.100	1.600	40.000	4.200	170.000	12.000
MAR	3.300	1.300	23.000	2.700	93.000	9.400
APR	3.100	1.700	14.000	2.600	110.000	7.700
MAY	3.300	1.600	18.000	!!S	93.000	4.300
JUN	4.400	1.300	22.000	3.200	78.000	7.700
JUL	4.500	2.900	21.000	3.500	42.000	11.000
AUG	22.000	1.900	54.000	5.500	.	.
SEP	2.500	1.600	25.000	4.200	.	.
OCT	2.300	3.300	34.000	3.000	79.000	33.000
NOV	2.800	2.000	.	.	.	.
	6.600	2.100	29.000	5.700	120.000	16.000
DEC	1.800	3.200	.	.	.	.
	2.200	1.600	29.000	3.200	71.000	5.000
	2.300	1.800	.	.	.	.

IRON (UG/L)

DET'N LIMIT = 4.000

GUIDELINE = 300. (A3)

JAN	57.000	BDL	8.300 <T	15.000 <T	10.000 <T	BDL
FEB	450.000	BDL	BDL	BDL	18.000 <T	28.000 <T
MAR	840.000	5.300 <T	20.000 <T	BDL	22.000 <T	22.000 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
APR	850.000	11.000 <T	14.000 <T	10.000 <T	24.000 <T	40.000 <T
MAY	750.000	12.000 <T	11.000 <T	!!S	32.000 <T	33.000 <T
JUN	410.000	BDL	BDL	BDL	34.000 <T	57.000
JUL	570.000	6.400 <T	BDL	BDL	200.000	210.000
AUG	BDL	11.000 <T	28.000 <T	11.000 <T	.	.
SEP	470.000	9.400 <T	6.200 <T	6.000 <T	.	.
OCT	330.000	BDL	BDL	BDL	120.000	130.000
NOV	560.000	BDL	.	.	.	.
	1500.000	7.200 <T	BDL	5.300 <T	150.000	77.000
DEC	170.000	BDL	.	.	.	.
	250.000	BDL	BDL	BDL	65.000	87.000
	190.000	12.000 <T	.	.	.	.
<hr/>						
MERCURY (UG/L)	DET'N LIMIT = 0.010		GUIDELINE = 1.000 (A1)			
JAN	BDL	BDL	.	.010	.	BDL
FEB	.020	.010	.	.010	.	.010
MAR	.010	.010	.	.020	.	.010
APR	.010	.010	.	.020	.	.020
MAY	.020 <T	BDL	.	.020 <T	.	.020 <T
JUN	.020 <T	.020 <T	.	.030 <T	.	.020 <T
JUL	.020 <T	.020 <T	.	.030 <T	.	.030 <T
AUG	.050 <T	.080	.	.070	.	.
SEP	.080	.080	.	.080	.	.
OCT	.040 <T	.040 <T	.	.100	.	.080
NOV	.020 <T	.020 <T	.	.	.	.
	.060	.020 <T	.	.100	.	.080
DEC	.020 <T	.020 <T	.	.	.	.
	.020 <T	.020 <T	.	.020 <T	.	.020 <T
	BDL	.020 <T	.	.	.	.
<hr/>						
MANGANESE (UG/L)	DET'N LIMIT = .050		GUIDELINE = 50.0 (A3)			
JAN	3.700	2.200	4.600	7.500	8.000	.310 <T
FEB	23.000	19.000	11.000	10.000	13.000	12.000
MAR	47.000	11.000	31.000	8.500	17.000	12.000
APR	56.000	12.000	13.000	8.500	12.000	11.000
MAY	79.000	4.300	2.700	!!S	6.900	1.900
JUN	55.000	10.000	4.900	4.900	8.200	7.100
JUL	150.000	37.000	17.000	14.000	24.000	23.000
AUG	.160 <T	25.000	35.000	20.000	.	.
SEP	56.000	29.000	13.000	7.500	.	.
OCT	42.000	8.700	4.300	4.000	12.000	11.000
NOV	42.000	17.000	.	.	.	.
	200.000	39.000	15.000	14.000	24.000	15.000
DEC	17.000	17.000	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	20.000 15.000	3.800 2.900	2.900 .	3.000 .	7.500 .	7.500 .
<hr/>						
MOLYBDENUM (UG/L)						
			DET'N LIMIT = 0.020		GUIDELINE = 500 (H)	
JAN	1.600	1.600	1.500	1.500	1.600	1.500
FEB	.870	1.600	1.400	1.400	1.400	1.500
MAR	.480 <T	1.600	1.500	1.600	1.400	1.500
APR	.560	1.700	1.600	1.600	1.500	1.500
MAY	1.100	2.300	2.400	!IS	2.300	2.400
JUN	2.500	3.100	3.100	3.400	2.900	3.100
JUL	3.700	4.700	5.000	4.800	4.800	4.500
AUG	4.400	4.400	4.100	3.900	.	.
SEP	1.600	2.400	2.700	2.700	.	.
OCT	1.100	1.800	2.100	2.300	2.100	2.100
NOV	.630 .300 <T	1.900 2.100	. 2.300	. 2.600	. 2.300	. 2.600
DEC	1.400 1.400 1.100	1.600 1.800 1.600	. 1.800 .	. 1.800 .	. 1.800 .	. 1.800 .
<hr/>						
NICKEL (UG/L)						
			DET'N LIMIT = 0.100		GUIDELINE = 50. (F3)	
JAN	9.000	8.700	26.000	11.000	16.000	7.600
FEB	1.300 <T	.970 <T	7.300	1.400	4.800	.530 <T
MAR	.960 <T	BDL	.910 <T	1.300 <T	1.300 <T	.530 <T
APR	.390 <T	BDL	1.100 <T	.530 <T	3.100	.570 <T
MAY	BDL	BDL	BDL	!IS	2.000 <T	BDL
JUN	.500 <T	.160 <T	2.600	.190 <T	3.200	BDL
JUL	1.300 <T	BDL	1.200 <T	.190 <T	4.000	.840 <T
AUG	.740 <T	1.400 <T	6.700	1.700 <T	.	.
SEP	.310 <T	BDL	.270 <T	BDL	.	.
OCT	1.800 <T	1.800 <T	3.800	1.200 <T	4.100	2.400
NOV	.450 <T 3.500	BDL BDL	. .440 <T	. .430 <T	. 1.300 <T	. BDL
DEC	1.300 <T 3.000 BDL	1.300 <T 4.300 .150 <T	. 5.800 .	. 4.500 .	. 6.400 .	. 3.800 .
<hr/>						
LEAD (UG/L)						
			DET'N LIMIT = 0.050		GUIDELINE = 50. (A1)	
JAN	.670	BDL	2.100	.330	11.000	BDL
FEB	1.100	.100 <T	5.600	.450	5.600	.350
MAR	1.000	.030 <T	3.300	.150 <T	2.100	.210
APR	.920	.180 <T	1.600	.220	2.900	.220
MAY	1.100	.100 <T	1.300	!IS	3.000	.050 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
JUN	.550	.060 <T	1.400	.170 <T	2.300	.310
JUL	.770	.120 <T	1.200	.410	1.700	.420
AUG	.040 <T	.080 <T	4.600	.390	.	.
SEP	.930	.180 <T	2.100	.290	.	.
OCT	.800	.220	2.100	.200 <T	1.400	.340
NOV	1.200	.090 <T	.	.	.	.
DEC	4.800	.120 <T	6.800	.690	25.000	.490
	.210	.330	.	.	.	.
	.330	.050 <T	8.500	.550	18.000	1.300
	.350	.090 <T	.	.	.	.
<hr/>						
ANTIMONY (UG/L)		DET'N LIMIT = .050		GUIDELINE = 146. (D4)		
JAN	.120 <T	.110 <T	.110 <T	.110 <T	.130 <T	.100 <T
FEB	.100 <T	.120 <T	.150 <T	.130 <T	.140 <T	.130 <T
MAR	.060 <T	.070 <T	.090 <T	.100 <T	.090 <T	.080 <T
APR	.090 <T	.110 <T	.080 <T	.050 <T	.100 <T	.080 <T
MAY	.140 <T	.150 <T	.180 <T	!IS	.130 <T	.140 <T
JUN	.160 <T	.200 <T	.180 <T	.160 <T	.150 <T	.150 <T
JUL	.240	.250	.280	.250	.230	.220
AUG	1.800	.650	.910	.840	.	.
SEP	.440	.560	.570	.530	.	.
OCT	.480	.610	.510	.630	1.100	.560
NOV	.240	.390	.	.	.	.
DEC	.200 <T	.440	.480	.430	.590	.460
	.180 <T	.240	.	.	.	.
	.290	.290	.320	.250	.320	.520
	.210	.290	.	.	.	.
<hr/>						
SELENIUM (UG/L)		DET'N LIMIT = 0.200		GUIDELINE = 10. (A1)		
JAN	.700 <T	1.200 <T	1.300 <T	1.300 <T	.750 <T	1.100 <T
FEB	1.100 <T	.800 <T	1.200 <T	1.500 <T	1.500 <T	1.300 <T
MAR	1.500 <T	1.900 <T	1.600 <T	2.200 <T	1.500 <T	1.500 <T
APR	.850 <T	2.200 <T	2.200 <T	1.700 <T	1.300 <T	2.500 <T
MAY	1.600 <T	2.300 <T	1.700 <T	!IS	2.000 <T	1.600 <T
JUN	1.000 <T	1.300 <T	1.600 <T	1.700 <T	2.000 <T	1.600 <T
JUL	2.000 <T	2.000 <T	2.500 <T	3.100 <T	3.200 <T	3.300 <T
AUG	2.000 <T	3.600 <T	3.600 <T	3.200 <T	.	.
SEP	.640 <T	3.600 <T	5.000 <T	7.900 <T	.	.
OCT	1.100 <T	3.300 <T	4.300 <T	5.100 <T	4.300 <T	4.000 <T
NOV	1.000 <T	3.500 <T	.	.	.	.
DEC	2.200 <T	3.300 <T	3.100 <T	2.100 <T	3.000 <T	3.800 <T
	1.500 <T	2.400 <T	.	.	.	.
	2.200 <T	5.000 <T	6.200 <T	6.300 <T	5.500 <T	4.200 <T
	1.400 <T	2.400 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

RAW

TREATED

SITE 1

SITE 2

TYPE

STANDING

FREE FLOW

STANDING

FREE FLOW

STRONTIUM (UG/L)

DET'N LIMIT = .050

GUIDELINE = 2000.(H)

JAN	270.000	260.000	270.000	260.000	260.000	240.000
FEB	210.000	200.000	200.000	200.000	200.000	210.000
MAR	180.000	150.000	160.000	170.000	140.000	160.000
APR	250.000	240.000	230.000	230.000	210.000	230.000
MAY	260.000	240.000	250.000	!IS	250.000	230.000
JUN	230.000	230.000	240.000	240.000	230.000	230.000
JUL	230.000	220.000	220.000	240.000	210.000	210.000
AUG	70.000	230.000	220.000	220.000	.	.
SEP	210.000	210.000	210.000	210.000	.	.
OCT	190.000	180.000	190.000	190.000	200.000	200.000
NOV	200.000	220.000	.	.	.	.
	230.000	220.000	220.000	200.000	240.000	230.000
DEC	270.000	250.000	.	.	.	.
	270.000	260.000	270.000	250.000	250.000	250.000
	280.000	260.000	.	.	.	.

TITANIUM (UG/L)

DET'N LIMIT = .050

GUIDELINE = N/A

JAN	14.000	10.000	11.000	12.000	11.000	9.000
FEB	19.000	9.900	11.000	9.900	9.900	11.000
MAR	13.000	6.600	7.800	6.200	7.800	6.700
APR	11.000	6.000	6.300	6.600	6.900	7.500
MAY	18.000	13.000	14.000	!IS	14.000	13.000
JUN	17.000	6.600	7.500	6.900	7.100	7.000
JUL	10.000	4.900	4.500	4.900	5.000	5.000
AUG	8.300	18.000	18.000	19.000	.	.
SEP	15.000	13.000	13.000	13.000	.	.
OCT	13.000	6.700	7.500	6.900	7.300	7.700
NOV	32.000	15.000	.	.	.	.
	23.000	15.000	15.000	13.000	16.000	15.000
DEC	16.000	11.000	.	.	.	.
	24.000	14.000	14.000	13.000	14.000	14.000
	16.000	12.000	.	.	.	.

THALLIUM (UG/L)

DET'N LIMIT = .010

GUIDELINE = 13. (D4)

JAN	.020 <T	.010 <T	.020 <T	.030 <T	.010 <T	.010 <T
FEB	.020 <T	.010 <T	.020 <T	.020 <T	.020 <T	.030 <T
MAR	.020 <T	.010 <T	.020 <T	.010 <T	.020 <T	.010 <T
APR	BDL	BDL	BDL	BDL	BDL	BDL
MAY	.030 <T	.020 <T	.030 <T	!IS	BDL	BDL
JUN	BDL	BDL	BDL	.020 <T	BDL	BDL
JUL	BDL	BDL	BDL	BDL	BDL	BDL
AUG	.020 <T	.090 <T	.030 <T	.020 <T	.	.
SEP	BDL	BDL	BDL	BDL	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	BDL	BDL	BDL	BDL	.020 <T	.020 <T
NOV	.020 <T	BDL	.	.	.	.
	BDL	BDL	BDL	BDL	.050 <T	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	BDL	BDL	BDL	BDL
	.060 <T	.040 <T	.	.	.	.
<hr/>						
URANIUM (UG/L)		DET'N LIMIT = .020		GUIDELINE = 20. (A2)		
JAN	3.100	3.000	3.100	2.900	2.900	2.700
FEB	3.200	2.100	1.800	2.000	2.100	1.900
MAR	2.200	1.500	1.600	1.800	1.300	1.700
APR	2.500	2.100	2.000	2.000	1.900	1.900
MAY	2.400	2.000	2.100	!!S	1.800	2.000
JUN	2.100	1.700	1.800	1.800	1.900	1.800
JUL	1.600	1.500	1.300	1.600	1.700	1.700
AUG	.890	.570	.670	.640	.	.
SEP	1.500	1.400	1.300	1.300	.	.
OCT	1.400	1.300	1.300	1.300	1.200	1.200
NOV	2.100	1.600	.	.	.	.
	1.900	1.200	1.200	1.200	1.500	1.600
DEC	2.700	2.700	.	.	.	.
	3.000	2.900	3.200	3.000	3.000	2.900
	2.400	2.900	.	.	.	.
<hr/>						
VANADIUM (UG/L)		DET'N LIMIT = .050		GUIDELINE = 100 (H)		
JAN	.800	.680	.760	.660	.640	.670
FEB	1.000	.250 <T	.310 <T	.290 <T	.250 <T	.240 <T
MAR	2.550	.340 <T	.580	.350 <T	.420	.320 <T
APR	1.500	.400 <T	.440	.420	.470	.430
MAY	1.300	.260 <T	.350 <T	!!S	.240 <T	.250 <T
JUN	1.700	.720	.680	.640	.490 <T	.500 <T
JUL	1.800	.960	.910	.910	.930	.960
AUG	1.800	1.400	1.200	1.300	.	.
SEP	1.800	1.100	1.100	1.100	.	.
OCT	1.400	.530	.760	.650	.570	.570
NOV	1.700	.550	.	.	.	.
	3.100	.440 <T	.530	.440 <T	.470 <T	.260 <T
DEC	.850	.560	.	.	.	.
	1.100	.620	.730	.520	.490 <T	.540
	.630	.410 <T	.	.	.	.
<hr/>						
ZINC (UG/L)		DET'N LIMIT = .001		GUIDELINE = 5000. (A3)		
JAN	4.400	1.700	46.000	39.000	260.000	1.700

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	6.400	4.800	150.000	51.000	170.000	3.400
MAR	8.700	1.700	33.000	14.000	37.000	2.300
APR	8.400	5.600	60.000	15.000	83.000	3.900
MAY	7.100	5.200	35.000	11.5	59.000	1.900
JUN	6.000	6.900	44.000	22.000	42.000	2.600
JUL	8.600	7.900	39.000	22.000	39.000	5.300
AUG	1.900	8.500	120.000	29.000	.	.
SEP	12.000	5.000	58.000	33.000	.	.
OCT	9.300	17.000	94.000	22.000	71.000	3.200
NOV	6.600	6.500	.	.	.	.
	27.000	6.800	140.000	68.000	110.000	3.500
DEC	8.600	16.000	.	.	.	.
	9.000	4.700	62.000	20.000	110.000	4.500
	16.000	5.500	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE		RAW	TREATED	SITE 1		SITE 2	
TYPE				STANDING	FREE FLOW	STANDING	FREE FLOW

CHLOROAROMATICS							
HEXACHLOROETHANE (NG/L)				DET'N LIMIT = 1.000		GUIDELINE = 1900 (D4)	
JAN	BDL	BDL	.	BDL	.	BDL	
FEB	BDL	BDL	.	6.000 <T	.	BDL	
MAR	BDL	BDL	.	BDL	.	BDL	
APR	BDL	BDL	.	BDL	.	BDL	
MAY	BDL	BDL	.	BDL	.	BDL	
JUN	BDL	BDL	.	BDL	.	BDL	
JUL	BDL	BDL	.	BDL	.	2.000 <T	
AUG	BDL	BDL	.	BDL	.	.	
SEP	BDL	BDL	.	BDL	.	.	
OCT	BDL	.	.	BDL	.	BDL	
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL	
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL	
	!QU	!QU	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

PESTICIDES & PCB

ALPHA BHC (NG/L)

DET'N LIMIT = 1.000

GUIDELINE = 700 (G)

JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	1.000 <T	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	2.000 <T	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	.	.	BDL	.	2.000 <T
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	1.000 <T	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	!QU	!QU	.	.	.	.

LINDANE (NG/L)

DET'N LIMIT = 1.000

GUIDELINE = 4000 (A1)

JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	1.000 <T	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	3.000 <T	4.000 <T	.	4.000 <T	.	4.000 <T
JUN	BDL	1.000 <T	.	BDL	.	BDL
JUL	BDL	BDL	.	1.000 <T	.	3.000 <T
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	.	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	1.000 <T	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	!QU	!QU	.	.	.	.

ATRAZINE (NG/L)

DET'N LIMIT = 50.00

GUIDELINE = 60000 (B3)

JAN	300.000 <T	270.000 <T	.	330.000 <T	.	320.000 <T
FEB	1660.000	1680.000	.	1640.000	.	1470.000
MAR	BDL	BDL	.	BDL	.	BDL
APR	!RO	!RO	.	540.000	.	500.000 <T
MAY	190.000	60.000	.	BDL	.	BDL
JUN	430.000 <T	150.000 <T	.	260.000 <T	.	230.000 <T
JUL	BDL	70.000 <T	.	210.000 <T	.	BDL
AUG	2420.000	1150.000	.	1790.000	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
SEP	BDL	ISM	.	BDL	.	.
OCT	320.000 <T	.	.	BDL	.	BDL
NOV	770.000	1610.000	.	.	.	.
	1600.000	1750.000	.	1050.000	.	1220.000
DEC	150.000 <T	300.000 <T	.	.	.	.
	1560.000	680.000	.	1040.000	.	BDL
	BDL	BDL	.	.	.	.
<hr/>						
CYANAZINE (NG/L)			DET'N LIMIT = 100.00		GUIDELINE = 10000 (B3)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	310.000 <T	170.000 <T	.	230.000 <T	.	.
SEP	BDL	ISM	.	BDL	.	.
OCT	BDL	.	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
<hr/>						
DES ETHYL ATRAZINE (NG/L)			DET'N LIMIT = N/A		GUIDELINE = N/A	
JUL	BDL	BDL	.	BDL	.	BDL
AUG	870.000 <T	250.000 <T	.	400.000 <T	.	.
SEP	BDL	ISM	.	BDL	.	.
OCT	BDL	.	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
<hr/>						
METOLACHLOR (NG/L)			DET'N LIMIT = 500.		GUIDELINE = 50000 (B3)	
JAN	BDL	BDL	.	BDL	.	BDL
FEB	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

JUL	BDL	BDL	.	BDL	.	BDL
AUG	2210.000 <T	1080.000 <T	.	1350.000 <T	.	.
SEP	BDL	!SM	.	BDL	.	.
OCT	BDL	.	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	610.000 <T	550.000 <T	.	520.000 <T	.	510.000 <T
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW

PHENOLICS						
PHENOLICS (UG/L)			DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)	
JAN	1.600	.600 <T	.	.	.	.
FEB	.600	.600	.	.	.	.
MAR	BDL	BDL	.	.	.	.
APR	BDL	BDL	.	.	.	.
MAY	BDL	BDL	.	.	.	.
JUN	1.600	1.600	.	.	.	.
JUL	1.600	1.600	.	.	.	.
AUG	8.800	2.800	.	.	.	.
SEP	.600 <T	.600 <T	.	.	.	.
OCT	4.400	1.400	.	.	.	.
NOV	1.000	.600 <T	.	.	.	.
DEC	4.000	3.000	.	.	.	.
	.800	1.000	.	.	.	.
	1.600	1.000	.	.	.	.
	1.600	2.000	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

VOLATILES

BENZENE (UG/L)

DET'N LIMIT = .050

GUIDELINE = 5.0 (B1)

JAN	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	.050 <T	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.

TOLUENE (UG/L)

DET'N LIMIT = .050

GUIDELINE = 24.0 (B4)

JAN	BDL	BDL	.	BDL	.	BDL
MAR	BDL	.050 UCS	.	.100 UCS	.	BDL
APR	BDL	BDL	.	.050 UCS	.	.050 UCS
MAY	BDL	.100 UCS	.	.200 UCS	.	.200 UCS
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	.050 <T	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	.100 <T	.	BDL	.	.850
DEC	.050 <T	.050 <T	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	.050 <T	.050 <T	.	.	.	.

ETHYLBENZENE (UG/L)

DET'N LIMIT = .050

GUIDELINE = 2.4 (B4)

JAN	BDL	BDL	.	.050 <T	.	BDL
MAR	BDL	.050 <T	.	BDL	.	BDL
APR	BDL	.050 <T	.	.050 <T	.	.100 <T
MAY	BDL	.050 <T	.	.650	.	.550
JUN	BDL	.050 <T	.	.100 <T	.	.100 <T
JUL	BDL	BDL	.	BDL	.	.050 <T
AUG	BDL	BDL	.	.100 <T	.	.
SEP	.050 <T	BDL	.	.050 <T	.	.
OCT	BDL	.150 <T	.	.100 <T	.	.100 <T
NOV	BDL	.050 <T	.	.	.	.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
NOV	BDL	BDL	.	BDL	.	.100 <T
DEC	.100 <T	.050 <T	.	.	.	.
	.050 <T	BDL	.	.050 <T	.	BDL
	.050 <T	.050 <T	.	.	.	.
<hr/>						
M-XYLENE (UG/L)	DET'N LIMIT = .100		GUIDELINE = 300 (B4)			
JAN	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.100 <T	.	.200 <T
MAY	BDL	.200 <T	.	3.000	.	2.300
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	.200 <T
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
<hr/>						
O-XYLENE (UG/L)	DET'N LIMIT = .050		GUIDELINE = 300 (B4)			
JAN	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.050 <T	.	.050 <T
MAY	BDL	.050 <T	.	1.300	.	1.050
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	.050 <T
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	BDL	.	BDL	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	.100 <T
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	.050 <T	BDL	.	.	.	.
<hr/>						
STYRENE (UG/L)	DET'N LIMIT = .050		GUIDELINE = 46.5 (D2)			
OCT	.050 <T	.100 <T	.	.550 UCS	.	.650 UCS
NOV	BDL	.200 <T	.	.	.	.
	.150 <T	.050 <T	.	.200 <T	.	.400 <T
DEC	.200 <T	.100 <T	.	.	.	.
	.150 <T	.100 <T	.	.150 <T	.	BDL

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

DEC

.150 <T

BDL

.

.

.

.

CHLOROFORM (UG/L)

DET'N LIMIT = .100

GUIDELINE = 350 (A1+)

JAN

BDL

48.000

.

44.300

.

33.400

MAR

BDL

7.900

.

28.300

.

27.900

APR

BDL

56.500

.

46.800

.

43.600

MAY

BDL

41.300

.

44.000

.

39.400

JUN

BDL

54.700

.

44.900

.

35.800

JUL

.400 <T

65.700

.

54.200

.

56.200

AUG

BDL

76.800

.

47.900

.

.

SEP

BDL

66.000

.

53.700

.

.

OCT

BDL

49.400

.

53.100

.

36.300

NOV

BDL

51.000

.

.

.

.

DEC

BDL

48.600

.

49.200

.

35.300

DEC

BDL

47.600

.

.

.

.

DEC

BDL

52.200

.

53.200

.

38.000

DEC

BDL

67.300

.

.

.

.

111, TRICHLOROETHANE (UG/L)

DET'N LIMIT = .020

GUIDELINE = 200 (D1)

JAN

BDL

BDL

.

BDL

.

BDL

MAR

BDL

BDL

.

BDL

.

BDL

APR

BDL

BDL

.

.100 <T

.

BDL

MAY

BDL

BDL

.

BDL

.

BDL

JUN

BDL

BDL

.

BDL

.

BDL

JUL

BDL

BDL

.

BDL

.

BDL

AUG

BDL

BDL

.

BDL

.

.

SEP

BDL

BDL

.

BDL

.

.

OCT

BDL

BDL

.

BDL

.

BDL

NOV

BDL

BDL

.

.

.

.

DEC

.060 <T

BDL

.

BDL

.

BDL

DEC

BDL

BDL

.

.

.

.

DEC

BDL

BDL

.

BDL

.

BDL

DEC

BDL

BDL

.

.

.

.

TRICHLOROETHYLENE (UG/L)

DET'N LIMIT = .100

GUIDELINE = 5.0 (D1)

JAN

BDL

BDL

.

BDL

.

BDL

MAR

BDL

BDL

.

BDL

.

BDL

APR

BDL

BDL

.

BDL

.

BDL

MAY

BDL

BDL

.

BDL

.

BDL

JUN

BDL

BDL

.

BDL

.

BDL

JUL

BDL

BDL

.

BDL

.

BDL

AUG

BDL

BDL

.

BDL

.

.

SEP

.100 <T

BDL

.

BDL

.

.

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE TYPE	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM			
	RAW	TREATED	SITE 1		SITE 2	
			STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	BDL	.100 <T	.	.100 <T	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.
<hr/>						
DICHLOROBROMOMETHANE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 350 (A1+)		
JAN	BDL	20.000	.	18.900	.	14.300
MAR	BDL	2.300 <T	.	8.300	.	7.500
APR	BDL	18.200	.	15.900	.	14.700
MAY	BDL	16.500	.	16.350	.	13.550
JUN	BDL	18.150	.	15.900	.	13.800
JUL	.300 <T	22.100	.	20.900	.	21.400
AUG	BDL	28.100	.	21.800	.	.
SEP	BDL	21.000	.	17.750	.	.
OCT	BDL	21.200	.	19.400	.	15.850
NOV	BDL	16.350	.	.	.	.
	BDL	17.900	.	15.300	.	14.150
DEC	BDL	19.400	.	.	.	.
	BDL	18.300	.	19.600	.	15.600
	BDL	27.000	.	.	.	.
<hr/>						
CHLORODIBROMOMETHANE (UG/L)		DET'N LIMIT = .100		GUIDELINE = 350 (A1+)		
JAN	BDL	4.600	.	4.300	.	2.900
MAR	BDL	.400 <T	.	1.900	.	1.900
APR	BDL	3.100	.	3.000	.	3.200
MAY	BDL	3.200	.	3.400	.	2.800
JUN	BDL	4.000	.	3.900	.	4.200
JUL	.100 <T	4.500	.	5.700	.	4.900
AUG	BDL	8.600	.	7.500	.	.
SEP	BDL	4.000	.	3.600	.	.
OCT	BDL	10.000	.	6.300	.	5.800
NOV	BDL	2.800	.	.	.	.
	BDL	3.400	.	2.200	.	2.900
DEC	BDL	5.200	.	.	.	.
	BDL	3.400	.	4.100	.	3.600
	BDL	6.000	.	.	.	.
<hr/>						
T-CHLOROETHYLENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 10.0 (C2)		
JAN	BDL	BDL	.	BDL	.	.150 <T
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	.200 <T	.	.100 <T

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM DRESDEN WTP 1988

WATER TREATMENT PLANT

DISTRIBUTION SYSTEM

SITE

TYPE

RAW

TREATED

SITE 1

SITE 2

STANDING

FREE FLOW

STANDING

FREE FLOW

MAY	BDL	BDL	.	.	.	.
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	BDL	.	BDL
AUG	BDL	BDL	.	BDL	.	.
SEP	BDL	.050 <T	.	.050 <T	.	.
OCT	BDL	.100 <T	.	.050 <T	.	BDL
NOV	BDL	BDL	.	.	.	.
	BDL	.100 <T	.	.100 <T	.	BDL
DEC	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	BDL	.	.	.	.

BROMOFORM (UG/L)

DET'N LIMIT = .200

GUIDELINE = 350 (A1+)

JAN	BDL	BDL	.	BDL	.	BDL
MAR	BDL	BDL	.	BDL	.	BDL
APR	BDL	BDL	.	BDL	.	BDL
MAY	BDL	BDL	.	BDL	.	BDL
JUN	BDL	BDL	.	BDL	.	BDL
JUL	BDL	BDL	.	.200 <T	.	BDL
AUG	BDL	.200 <T	.	.400 <T	.	.
SEP	BDL	BDL	.	BDL	.	.
OCT	BDL	.200 <T	.	.200 <T	.	.200 <T
NOV	BDL	BDL	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
DEC	BDL	.200 <T	.	.	.	.
	BDL	BDL	.	BDL	.	BDL
	BDL	.200 <T	.	.	.	.

TOTL TRIHALOMETHANES (UG/L)

DET'N LIMIT = .500

GUIDELINE = 350 (A1)

JAN	BDL	72.600	.	67.500	.	50.600
MAR	BDL	10.600	.	38.500	.	37.300
APR	BDL	77.800	.	65.700	.	61.500
MAY	BDL	61.200	.	63.750	.	55.750
JUN	BDL	76.850	.	64.700	.	53.800
JUL	.800 <T	92.300	.	81.000	.	82.500
AUG	BDL	113.700	.	77.600	.	.
SEP	BDL	91.000	.	75.050	.	.
OCT	BDL	80.800	.	79.000	.	58.150
NOV	BDL	70.150	.	.	.	.
	BDL	69.900	.	66.700	.	52.350
DEC	BDL	72.400	.	.	.	.
	BDL	73.900	.	76.900	.	57.200
	BDL	100.500	.	.	.	.

Table 6

<u>SCAN/PARAMETER</u>	<u>UNIT</u>	<u>DETECTION</u>		<u>GUIDELINE</u>
		<u>LIMIT</u>		
BACTERIOLOGICAL				
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0		500/ML (A1)
P/A BOTTLE		0		0 (A1*)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0		5/100mL (A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0		N/A
CHLOROAROMATICS				
HEXACHLOROBUTADIENE	NG/L	1.000	450.	(D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000	(I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000	(I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000	(I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000	(I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000	(D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000	(D4)
HEXACHLOROBENZENE	NG/L	1.0	10.	(C1)
HEXACHLOROETHANE	NG/L	1.000	1900.	(D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A	
PENTACHLOROBENZENE	NG/L	1.000	74000	(D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A	
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A	
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A	
CHLOROPHENOLS				
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A	
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A	
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A	
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000	(D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	5000.	(B1)
PENTACHLOROPHENOL	NG/L	50.	60000.	(B1)
CHEMISTRY (FLD)				
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A	
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A	
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A	
FIELD PH	DMSNLESS	N/A	6.5-8.5	(A4)
FIELD TEMPERATURE	°C	N/A	<15 °C	(A1)
FIELD TURBIDITY	FTU	N/A	1.0	(A1)
CHEMISTRY (LAB)				
ALKALINITY	MG/L	.200	30-500	(A4)
CALCIUM	MG/L	.100	100.	(F2)
CYANIDE	MG/L	.001	.20	(A1)
CHLORIDE	MG/L	.200	250.	(A3)
COLOUR	TCU	.5	5.0	(A3)
CONDUCTIVITY	UMHO/CM	1.	400.	(F2)
FLUORIDE	MG/L	.01	2.4	(A1)
HARDNESS	MG/L	.50	80-100	(A4)
MAGNESIUM	MG/L	.05	30.	(F2)

<u>SCAN/PARAMETER</u>	<u>UNIT</u>	<u>DETECTION</u>	
		<u>LIMIT</u>	<u>GUIDELINE</u>
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DMSNLESS	N/A	6.5-8.5 (A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40 (F2)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)

METALS

ALUMINUM	UG/L	.050	100. (A4)
ANTIMONY	UG/L	.050	146. (D4)
ARSENIC	UG/L	.050	50. (A1)
BARIUM	UG/L	.020	1000. (A1)
BORON	UG/L	.200	5000. (A1)
BERYLLIUM	UG/L	.010	0.20 (H)
CADMIUM	UG/L	.050	5.0 (A1)
COBALT	UG/L	.020	1000. (H)
CHROMIUM	UG/L	.100	50. (A1)
COPPER	UG/L	.100	1000. (A3)
IRON	UG/L	5.0	300. (A3)
MERCURY	UG/L	.01	1.0 (A1)
MANGANESE	UG/L	.050	50. (A3)
MOLYBDENUM	UG/L	.020	500. (H)
NICKEL	UG/L	.100	50. (F3)
LEAD	UG/L	.020	50. (A1)
SELENIUM	UG/L	.200	10. (A1)
SILVER	UG/L	.020	50. (A1)
STRONTIUM	UG/L	.100	2000. (H)
THALLIUM	UG/L	.010	13. (D4)
TITANIUM	UG/L	.100	N/A
URANIUM	UG/L	.020	20. (A2)
VANADIUM	UG/L	.020	100. (H)
ZINC	UG/L	.020	5000. (A3)

PHENOLICS

PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0 (A3)
---------------------------------	------	----	----------

PESTICIDES & PCB

ALDRIN	NG/L	1.0	700. (A1)
AMETRINE	NG/L	50.	300000. (D3)
ATRAZINE	NG/L	50.	60000. (B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700. (G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300. (G)
GAMMA HEXACHLOROCYCLOHEXANE (LINDANE)	NG/L	1.0	4000. (A1)
ALPHA CHLORDANE	NG/L	2.0	7000. (A1)
GAMMA CHLORDANE	NG/L	2.0	7000. (A1)
BLADEX	NG/L	100.	10000. (B3)
DIELDRIN	NG/L	2.0	700. (A1)
METHOXYCHLOR	NG/L	5.0	100000. (A1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000. (D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000. (D4)
ENDRIN	NG/L	4.0	200. (A1)
ENDOSULFAN SULPHATE (THIODAN SULPHATE)	NG/L	4.0	N/A
HEPTACHLOR EPOXIDE	NG/L	1.0	3000. (A1)

SCAN/PARAMETER	DETECTION		
	UNIT	LIMIT	GUIDELINE
HEPTACHLOR	NG/L	1.0	3000. (A1)
METOLACHLOR	NG/L	500.	50000. (B3)
MIREX	NG/L	5.0	N/A
OXYCHLORDANE	NG/L	2.0	N/A
O, P-DDT	NG/L	5.0	30000. (A1)
PCB	NG/L	20.0	3000. (A2)
O, P-DDD	NG/L	5.0	N/A
PPDDE	NG/L	1.0	30000. (A1)
PPDDT	NG/L	5.0	30000. (A1)
ATRATONE	NG/L	50.	N/A
ALACHLOR	NG/L	500.	35000. (D2)
PROMETONE	NG/L	50.	52500. (D3)
PROPAZINE	NG/L	50.	16000. (D2)
PROMETRYNE	NG/L	50.	1000. (B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000. (B2)
SIMAZINE	NG/L	50.	10000. (B3)

POLYAROMATIC HYDROCARBONS

PHENANTHRENE	NG/L	10.0	N/A
ANTHRACENE	NG/L	1.0	N/A
FLUORANTHENE	NG/L	20.0	42000. (D4)
PYRENE	NG/L	20.0	N/A
BENZO(A)ANTHRACENE	NG/L	20.0	N/A
CHRYSENE	NG/L	50.0	N/A
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A
BENZO(E)PYRENE	NG/L	50.0	N/A
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A
PERYLENE	NG/L	10.0	N/A
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A
BENZO(A)PYRENE	NG/L	5.0	10. (B1)
BENZO(G,H,I)PERYLENE	NG/L	20.0	N/A
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A
BENZO(B)CHRYSENE	NG/L	2.0	N/A
CORONENE	NG/L	10.0	N/A

SPECIFIC PESTICIDES

TOXAPHENE	NG/L	N/A	5000. (A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	280000. (B1)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000. (A1)
2,4-DICHLOROPHENOXYBUTYRIC ACID	NG/L	200.	18000. (B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A
DICAMBA	NG/L	100.	87000. (B3)
PICHLORAM	NG/L	100.	2450000. (D3)
SILVEX (2,4,5-TP)	NG/L	50.	10000. (A1)
DIAZINON	NG/L	20.	14000. (A1)
DICHLOROVOS	NG/L	20.	N/A
DURBAN	NG/L	20.	N/A
ETHION	NG/L	20.	35000. (G)
GUTHION	NG/L	N/A	N/A
MALATHION	NG/L	20.	160000. (G)
MEVINPHOS	NG/L	20.	N/A
METHYL PARATHION	NG/L	50.	7000. (B3)
METHYLTRITHION	NG/L	20.	N/A
PARATHION	NG/L	20.	35000. (B1)

<u>SCAN/PARAMETER</u>	<u>DETECTION</u>		
	<u>UNIT</u>	<u>LIMIT</u>	<u>GUIDELINE</u>
PHORATE (THIMET)	NG/L	20.	35. (D2)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENONYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	18000. (D3)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	70000. (A1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)

VOLATILES

BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHYLENE DIBROMIDE	UG/L	.05	50. (G)
METHYLENE CHLORIDE	UG/L	.500	1750. (D3)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	350. (D3)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (D1)
1,2-DICHLOROPROPANE	UG/L	.050	10.0 (G)
TRICHLOROETHYLENE	UG/L	.100	5.0 (D1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60 (D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17 (D4)
CHLOROBENZENE	UG/L	.100	1510. (D3)
1,4-DICHLOROBENZENE	UG/L	.100	5.0 (B1)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	200. (B1)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	46.5 (D2)

**TD
380
.D74
1990**

Dresden water treatment plant :
annual report 1988.

79049